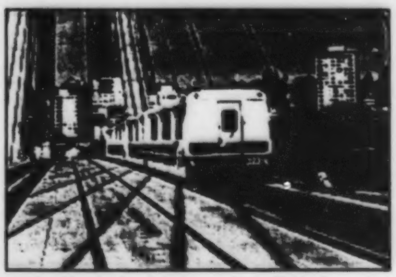
A Long-Range Transportation Plan for Greater Vancouver
Livable Region Strategic Plan



TransLink Strategic Transportation Plan
2000 - 2005

April 2000

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Executive Summary

This final version of the Strategic Transportation Plan is an updated version of the Draft Plan dated January 12, 2000. The revisions were based on the results of the public and stakeholder consultation conducted from January to March 2000. Details of the results of the consultation process, opinion surveys and agency and stakeholder feedback are described in a separate appendix document.

The Strategic Transportation Plan sets out the actions TransLink will take to respond to transportation needs in the region and support the Livable Region Strategic Plan for the next three to five years. It is an interim plan. Its strategies are those of the Livable Region Strategic Plan and Transport 2021, pending a coordinated review of long range strategies by TransLink and the Greater Vancouver Regional District in 2001. The Plan is substantive, proposing significantly increased expenditures for transit and selective development of roads in the region. Equally important, the Plan establishes a management program which will address transportation demand management, support alternatives to single occupant auto travel, establish road use priorities, apply technology to transportation, and emphasize goods movement, cycling, walking, safety and security, and marketing. The Plan calls for measuring achievement through an annual report to the TransLink Board and the public that will measure TransLink's achievement.

By many standards, our region is already relatively successful. We have achieved a land use form and level of transit use that would be the envy of many American and some Canadian cities. The proportion of trips made by the automobile has not increased in recent years. Transit services have improved and the SkyTrain system is now being expanded. Our town centres are beginning to provide the services required to become complete communities. Much residential development has been concentrated around Vancouver's urban core and the town centres. Vancouver is consistently rated one of the most livable cities in the world.

However, there are many challenges that this transportation plan must address. These will also need to be addressed in TransLink's longer range transportation plan and the review and update to the Livable Region Strategic Plan, which will be developed in concert in the next two years. Growth concentration objectives are not being fully achieved. Increasingly, employment growth is dispersing across the region. Transit supply is below plan needs, and the goal of a transit market share of 17% of rush hour travel by 2006 is not being achieved. Similarly, targets for other non-automobile travel (i.e. cycling, walking and carpool/vanpool) are not being achieved. Objectives for transportation demand management and trip reduction are not being met. Overall system management is fragmented across jurisdictional boundaries and less than comprehensive.

We need an effective management strategy to make the best use of our road and transit system, to manage transportation demand, and to provide transportation choice. We need to advance the development of rapid transit systems, and provide more and more varied transit services that will attract users and serve their needs. We need to better promote walking and cycling as low-cost and low-impact modes of travel. We need to address the needs of industry for the efficient movement of goods, and to make some provision for the continuing growth in automobile traffic, and this means key improvements to our road system. Partnership with other agencies – municipalities, the Greater Vancouver Regional District, the Province, and the private sector will be required to make these achievements possible.

To pursue these objectives, the Strategic Transportation Plan will:

- Increase transit use by up to 29% by 2005
- Slow the growth of traffic congestion
- Provide a well-maintained and financed major road network
- Support more efficient goods movement
- Pursue new road facilities including the South Fraser Perimeter Road and a new bridge to replace the Albion Ferry
- Provide more frequent and less crowded transit services through an increase in the bus fleet of approximately 48%
- Offer a much more responsive and flexible bus service by providing a broader range of bus services, including more "B-Line" services, connections between town centres, and community shuttles
- Increase handyDART service by 25%
- Expand SkyTrain capacity
- Provide more choices for carpooling, vanpooling and other alternatives
- Provide new cycling facilities and a gradual increase in cycling
- Adopt new technologies to improve transportation services and operations
- Ensure better monitoring of the performance of the transportation system
- Maintain ongoing public consultation in the implementation of these changes

Overall, the Plan is forecast to increase transit ridership from 127 million in 1999 to between 153 million and 164 million passengers in 2005, depending on the impact of the proposed fare changes. This represents an increase in transit ridership of up to 29%, resulting in a transit market share of up to 12.5% of regional travel compared to 11% today. If the proposed transportation demand management and transit priority measures are implemented, transit ridership can be expected to be higher.

The additional services and capital programs set out in the Strategic Transportation Plan will increase TransLink's annual costs from $506.7 million in 1999 (scaled to twelve months) to $814.4 million in 2005.

The Plan will be financed through existing and new sources of revenue: a transit fare increase averaging 25 cents on a one zone fare and similar proportional increases in other fares in 2000 and again in 2003; an automobile levy averaging $75 per vehicle increasing annually by 5%, beginning in October 2001; and an additional charge of 14% to fees paid for off-street commercial parking starting in 2005. Prior to the increased parking tax, a regional parking strategy will be developed in consultation with municipalities and stakeholders. The mechanism by which the automobile levy will be structured will be determined during 2000 and will consider alternatives to a flat charge such as relating the charge to parameters such as vehicle use or pollution. The increase in transit fares will improve cost recovery, and the auto levy and parking charge represent initial steps toward transportation pricing. TransLink's mandate means that these revenue sources will be devoted exclusively to transportation services and facilities.

Maintaining the quality of life in our region requires action. This Strategic Transportation Plan makes a clear choice to implement the programs and invest in the changes required to minimize the growth in automobile traffic and preserve the quality of life in our region.

1 - Introduction

1.1 Overview

The Strategic Transportation Plan is TransLink's blueprint for the next three to five years. It is an interim plan. It does not revisit long term goals and strategies, but rather adopts the goals and strategies of the Livable Region Strategic Plan and Transport 2021. The "mid-point" transportation supply and funding scenario used as the basis for discussions to establish TransLink provided further guidance. A longer term strategic transportation plan review, conducted in concert with the Greater Vancouver Regional District's review of the Livable Region Strategic Plan, will undertake a full review of these directions.

Our region is relatively successful, but many challenges remain. This Plan sets out how TransLink and the regional transportation system play their part in supporting the current vision and goals of the GVRD's Livable Region Strategic Plan. Investment in transit, maintenance and upgrading of major roads, and selective expansion in road capacity provide the infrastructure, but TransLink's management of the transportation system and the services it provides must be successful for us to achieve these goals.

Population growth will mean travel growth. The dispersal of employment and the failure to meet regional objectives for the location of new residential development will increase travel demand. Successful management of the transportation system requires coherent programs across components of the transportation system and across jurisdictions. It also requires effective management of programs to support alternative travel modes and manage transportation demand. Failure to provide alternatives, to manage transportation demand successfully and to manage the road system to make travel by transit convenient and fast, may make planned investment in transit services uneconomic and ineffective.

1.2 This Document

This document is structured in six main parts.

Following Section 1- Introduction, Section 2 – 'Our Region', provides the broad context for the plan, including a discussion of the role of TransLink in supporting the GVRD's Livable Region Strategic Plan.

Section 3 –'Where We Are Today', outlines where the region is today in terms of how we travel around the region and the progress which has been made in meeting the vision of the Livable Region Strategic Plan.

Section 4 – 'The Strategic Transportation Plan' presents the five main components of the overall strategy: the vision and objectives; the transit plan; the roads and infrastructure plan; the management strategy; and the financial plan.

The vision and objectives set out the key directions for the Plan. The transit plan sets out the program for expanding and improving the transit system. The roads and infrastructure plan sets out the policies for maintenance of the roads system and the capital expenditure program to improve the road network and provide supporting facilities for the transit system and cycling. The management strategy deals with strategies to manage transportation demand, to manage TransLink's services, to finance and price the transportation system in a manner which supports desired transportation choices, and to track the progress of implementation. The management strategy also outlines some of the key partnerships and interdependencies that are critical to allow TransLink to support the region's vision to the fullest extent. The financial plan provides a projection of the costs of the plan components, including TransLink administration, and presents a financial plan to fund the implementation of the strategic plan.

Finally, Section 5 – 'Support for Regional Objectives' summarizes how the Plan supports the Livable Region Strategic Plan and other regional goals for air quality and economic development and Section 6 – 'Conclusions' provides some closing comments.

A separate appendix to the Strategic Transportation Plan provides information regarding the following:

- Livable Region Strategic Plan transportation choice policies;
- Transport 2021 policies;
- A review of the current situation relative to key objectives;
- Information on commuting patterns by sub-region for the journey to work;
- A summary of the technical development of the plan;
- Additional financial information; and
- Results of public consultation.

2 - Our Region

> *"Greater Vancouver can become the first urban region in the world to combine in one place the things to which humanity aspires on a global basis: a place where human activities enhance rather than degrade the natural environment, where the quality of the built environment approaches that of the natural setting, where the diversity of origins and religions is a source of social strength rather than strife, where people control the destiny of their community, and where the basics of food, clothing, shelter, security and useful activity are accessible to all."* Creating Our Future, Greater Vancouver Regional District, 1990

Today, two million people call this region home. Over the next few decades, the population of the region is projected to grow by an amount equal to the number of people now living in the cities of Vancouver, Burnaby, Richmond, Surrey, North Vancouver, West Vancouver and New Westminster. That's more than a million new residents, and their arrival in our region will challenge this vision. Where will they live, work, play, go to school? How will they get to work, shops, the theatre, the beach? Will their travel reduce air quality? Will farmland still exist here?

To address these issues and to ensure this region's livability in coming decades, the Greater Vancouver Regional District and its member municipalities, in consultation with the public, crafted a comprehensive and far-reaching vision called Creating Our Future. The goal of Creating Our Future was to establish region-wide co-operation for managing growth and protecting the environment, in partnership with member municipalities and other governments.

2.1 Livable Region Strategic Plan

To get from vision to reality, the Greater Vancouver Regional District and member municipalities developed the Livable Region Strategic Plan with input from the public. The Livable Region Strategic Plan, which was adopted by the GVRD Board in January 1996, sets out four key strategies:

1) Protecting the Green Zone
Keep two-thirds of the region's total land as green space by protecting farmland, parkland, watersheds and ecologically sensitive areas. The Green Zone also helps establish a long-term boundary for urban growth.

2) Building Complete Communities
Increase focus on regional and municipal town centres by providing people with more opportunities to work, shop and access services close to where they live.

3) Achieving a Compact Metropolitan Area
Reduce sprawl by increasing population density in the established urban area.

4) Increasing Transportation Choices
Reduce dependency on single occupant vehicles by creating more efficient public transit and encouraging alternatives like walking, cycling and carpooling.

These strategies work together and depend on each other to achieve the goal of a livable region.

The Strategic Transportation Plan Appendix, which is available under separate cover, lists the Transportation Choice Policies for the Livable Region Strategic Plan.

A Long-Range Transportation Plan for Greater Vancouver
Livable Region Strategic Plan

The specific strategy for increasing transportation choice comes from the 1993 Transport 2021 Long Range Transportation Plan, which was approved by the GVRD in June 1994. The specific policies of Transport 2021 are listed in the Strategic Transportation Plan Appendix document. Transport 2021 includes three related strategies:

1. Manage land use to reduce the need for new transportation facilities and increase the viability of alternatives to the private auto.
2. Manage transportation demand to provide incentives and disincentives to change travel choices to reduce auto use.
3. Manage transportation supply by providing road and transit facilities and services in a manner that supports and complements the land use and demand management strategies.

These strategies are interdependent. The transportation system must support a compact metropolitan area and help shape the growth of regional town centres. A successful compact metropolitan area and successful town centres will help make the provision of high quality transit services possible, and will support transportation choices like walking, cycling, and carpools. Protection of the green zone will support the compact metropolitan area.

There are many key decision-making bodies that determine the future of our region – municipalities, the Greater Vancouver Regional District, and the Province. Through planning, zoning, and capital investments in public facilities, these agencies will determine the success of our region. Careful management and strong partnerships will be necessary to ensure our joint success.

2.2 The Role of TransLink

TransLink, a regional transportation authority established in the Greater Vancouver Transportation Authority Act, is responsible for providing a regional transportation system that:

> *(a) moves people and goods, and*
> *(b) supports*
> *(i) the regional growth strategy, and*
> *(ii) the air quality objectives and economic development of the transportation service region.*
>
> (Source: Greater Vancouver Transportation Authority Act, 1998)

The Greater Vancouver Transportation Authority Act mandates partnerships. TransLink and the Greater Vancouver Regional District must work together to establish a mutually agreeable strategic transportation plan and growth management strategy. TransLink must work with the municipalities in the development of the major road network. TransLink must consult broadly with interested agencies and the public in the development of its strategic and service plans, and its strategic plan must support the Livable Region Strategic Plan and regional air quality objectives.

TransLink's direct responsibilities include the Major Road Network (shared with municipalities) and the regional transit system (Coast Mountain Bus Company, SeaBus, SkyTrain, handyDART, West Vancouver Municipal Transit, Bowen Island Community Transit and West Coast Express). TransLink also manages the trip reduction service, transportation demand management, cycling and AirCare programs. New taxation powers and funding sources set out in the GVTA legislation will facilitate the funding of transportation improvements.

Subsidiaries and contractors carry out TransLink's operational responsibilities. TransLink is a transportation planning and funding agency that will provide comprehensive management of the transportation system, and will work closely with other governments and user groups in this process.

3 - Where We Are Today

Greater Vancouver is a relatively successful region, but faces many challenges in future. Car ownership increases proportional to population growth, yet targets for the development of the transportation system, transportation demand management, and alternative transportation services are not being met. Without well-planned land use, an effective transportation system, and transportation demand management, continued growth in traffic can only mean increased traffic congestion, travel delays for commercial goods movement and auto drivers, and increased air pollution.

Transportation Patterns

If present trends continue, by 2005, the region's population will be making an additional 500,000 to 600,000 trips per day. If the transportation mode shares remain the same, about 77% of the trips will be made by car, 10% by public transit and 13% by walking/cycling.

> *By 2006, Transport 2021 calls for 70% of trips to be made by car, 17% by public transit, and 13% of trips by walking or cycling.*

Growth and Transport Choice

The more people are clustered in an area, the easier it is to provide a cost-effective transit system, and the more likely it is that modes of travel like bicycling and walking will be feasible and convenient. In the past few years, approximately 63-65% of all new population growth in the GVRD has been located in the Growth Concentration Area (Vancouver, Burnaby, New Westminister, Port Moody, Port Coquitlam, Coquitlam, North Surrey and North Delta).

> *The target for the Livable Region Strategic Plan is for 70% of all population growth to be within the Growth Concentration Area.*

Employment and Transportation

Overall, the concentration of jobs in downtown and the regional town centres was reduced from 44% to 37% between 1981 and 1996. The growth of office parks is a good example of the dispersal problem. This form of development is difficult to serve efficiently by transit and is largely car dependent, requiring workers to drive to work.

> *One of the key strategies in the Livable Region Strategic Plan is the development of town centres to provide employment, shopping, and recreation opportunities near where people live. To the extent that employment is dispersed, these opportunities are lost, and transportation problems are worsened.*

Congestion and Transit

Increased congestion is hampering transit operations and delaying automobile traffic. Compared to many other metropolitan areas in North America, relatively little priority is given to the movement of buses on the region's roads. Bus speeds have decreased by around 7% in the last decade. This makes the service less attractive and much more expensive to provide.

> *Transport 2021 advocated re-allocating roadway capacity to buses in order to maximize people-carrying capacity and make better use of investments.*

Goods Movement

Congestion is also affecting goods movement. A 1996 study of freight transportation reported that highways and roads leading to gateway facilities (e.g. Vancouver International Airport, Port of Vancouver) are operating in congested or near-congested conditions. Local businesses report that goods movement costs are increasing significantly.

> *A significant direction in Transport 2021 was to move goods effectively, efficiently, safely and reliably. Since Transport 2021 was completed, there has not been an explicit focus on goods movement.*

Rapid Transit

The Province has recently undertaken extension of the SkyTrain system from New Westminster to Vancouver Community College in the Lougheed corridor. This line is part of two lines identified in Transport 2021, but completes neither. An initial agreement has been reached on extending the line to Coquitlam, but the final agreement has not been ratified.

> *Transport 2021 called for the completion of three rapid transit lines by 2006, including the New Westminster to Coquitlam line, the Central Broadway to Lougheed line, and the Richmond line.*

Bus System

Some improvements have been made in the bus system over recent years, including an increase in the bus fleet from 1,024 in 1997 to 1,109 in 1999, and the introduction of new services, including the highly successful Broadway B-Line. The reliability of bus service has also increased in the past two years.

> *Transport 2021 proposed an almost doubling of the bus system (from 1,109 buses in 1999 to 1,900 by 2006), a much greater diversity of the types of transit services, including local community based services and new High Occupancy Vehicle lanes to increase the speed of transit service.*

Transportation Demand Management

Limited vanpool and carpool programs are in place in the region, but no demand-side management programs (e.g. pricing measures and parking management) to limit single occupancy vehicle use have been implemented.

> *Transport 2021 envisaged financial incentives for telecommuting, development of a regional parking strategy, and implementation of tolls in 2000.*

Walking and Cycling

Walking and cycling are important parts of a transportation solution. A third of all work trips are less than 5 kilometres, within a reasonable travel distance by bicycle. The "catchment area" of bus routes can be greatly extended with suitable bus-bike facilities. A portion of the bus fleet is equipped with bike racks, and bike storage is being added at SkyTrain stations. Municipalities are developing bicycle networks. With suitable facilities, programs and services, there is potential to significantly increase the proportion of trips by bicycle.

> *Objectives for town centres and growth concentration in the Livable Region Strategy support bicycles and walking as part of a transportation solution.*

Major Road Network

The road network is not being expanded and requires improved maintenance. Management and operation of the road system has been fragmented between municipalities and the provincial government. TransLink and the municipalities have jointly defined a Major Road Network, and agreed on funding for maintenance and rehabilitation, and are working toward improved system management.

> *The development of region-wide standards and funding for rehabilitation and maintenance of the major road system, and the potential for coordinated system management will lead to improvements in the road system.*

Air Quality Management

Air quality in the region has improved, but projections based on increased congestion and automobile traffic suggest it will worsen in future. The Regional Air Quality Management Program has a number of components, some transportation-related, to address the problem, and TransLink's AirCare program will ensure that automobiles operate within standards. Control in the growth of automobile traffic is a key tool to address air quality and the emission of greenhouse gases. Transportation demand management programs are required.

> *Transportation demand management programs have not been implemented as called for by Transport 2021.*

The creation of TransLink provides a greater integration of land use and transportation planning and the potential for integrated management of the transportation system. The favourable transportation funding formula, with significant provincial cost sharing and new revenue sources, will support expansion of the transportation system. New revenue sources can be used to introduce a form of transportation pricing, and all revenues are devoted solely to transportation services.

TransLink's Strategic Transportation Plan uses these tools to address the challenges outlined in this section.

4 - The Strategic Transportation Plan

The development of this Plan was based on both the Livable Region Strategic Plan and Transport 2021 objectives, as well as the "Mid-Point Scenario" that provided the basis for the creation of TransLink. In the fall of 1999, a discussion paper containing three system development and funding scenarios was circulated to the public. These scenarios corresponded roughly to: (i) investment levels in the years preceding the formation of TransLink; (ii) the higher levels of expenditure envisaged in negotiations between the Greater Vancouver Regional District and the Province to establish TransLink; and (iii) still higher investment levels closer to those envisaged in Transport 2021. This paper was circulated widely to technical advisory groups and the public and comments were solicited.

In September of 1999, TransLink conducted a Future Search consultation with a broad range of stakeholder representatives over a two and a half day period. That process produced twelve generally agreed strategies for TransLink to pursue. With the comments from the public consultation on the discussion paper and the Future Search directions, and advice from municipal and Provincial staff, TransLink staff developed and evaluated a number of services and projects against the present base of services and facilities. The relative costs and benefits were assessed and a recommended package of service and facility improvements was developed for the Plan, which respects the results of the Future Search and the public and technical consultation.

The Strategic Transportation Plan is structured in five parts: 4.1 Plan Vision and Objectives, 4.2 the Transit Plan; 4.3 the Roads and Infrastructure Plan; 4.4 the Management Strategy; and 4.5 the Financial Plan. Each of these is outlined below. A fuller description of the development of the services and facilities component of the plan is contained in the TransLink Strategic Plan Appendices.

4.1 Vision and Objectives

The Vision

The vision for TransLink's services and strategic plan is *Enhanced Livability through Managed Mobility*. This short statement sets out our direction. Our efforts are directed at supporting the Livable Region Strategic Plan and the livability of our region. Enhanced livability means the ability to reach work and services conveniently and safely, and effective transportation for goods movement to support employment and economic growth. It means meeting customer needs and providing alternatives to the automobile, with the opportunity to walk or bicycle to work for many, to take transit locally and regionally, and to drive when necessary with reasonable congestion levels. It means improved air quality through a transportation system that provides reasonable alternatives to automobile use, and limits the growth in automobile usage. It means a transportation system that minimizes the effect of traffic and goods movement on residential neighbourhoods.

Managed mobility means a management system that addresses all aspects of the transportation system – transportation demand, carpooling and vanpooling, cycling, and walking, priorities for road use, cost-effective management of the transit system, and the use of current technology in operating and managing the transportation system. It means parking strategies and pricing transportation to limit the growth in automobile use. It means management in partnership with municipalities, the GVRD and the Province, TransLink's transportation providers, and the private sector.

Plan Objectives

As an interim plan, this Strategic Transportation Plan is focussed on implementation over a three to five year period to support the goals of the Livable Region Strategic Plan. The objectives respond to public concerns expressed in the public process to create TransLink, the consultation process leading up to this plan, technical consultations with users, and a range of focus groups and customer consultations related to TransLink services. There are three global objectives:

1. **Enhance the transit system through expansion of existing services and provision of a range of new services that meet customer needs.** This objective is accomplished through the Transit Plan.
2. **Improve the Major Road Network through rehabilitation and upgraded maintenance of existing roadways and selective addition of new facilities that will support goods movement and relieve congestion at key locations.** This objective is accomplished through the Roads and Infrastructure Plan.
3. **Develop a system that implements transportation demand management, promotes the use of walking, cycling and other alternatives and will integrate management of all elements of the transportation system in a fiscally responsible manner and monitor the progress of implementation.** This objective is achieved through the Management Plan.

The following sections set out the Transit Service Plan, the Roads and Infrastructure Plan, and the Management Plan.

4.2 Transit Plan

The following sections outline the major components of TransLink's Transit Plan to 2005. It builds on the strengths of the existing fully integrated regional transit system and expands and broadens the range of services available to the region's diverse communities. While the Transit Plan identifies at a general level the specific transit initiatives to be implemented, these will be subject to periodic review and adjustment over the period of the plan, based on circumstances at the time. This may result in some service proposals being revised or new initiatives being identified.

The Transit Plan offers an expanded and broader range of transit services that are better suited to the diverse needs of this region's communities. It provides the transit expansion for TransLink to be competitive in its key markets. These markets are primarily trips for work and post-secondary education purposes, on the major trunk bus routes, as well as peak-period and mid-day travel in the Growth Concentration Area, the North Shore, Richmond and to the regional town centres. Outside these areas, transit services will be a combination of conventional services and new and innovative forms of public transport, such as Community Shuttle. The attractiveness, effectiveness and efficiency of this transit expansion can be significantly increased by giving much greater priority to buses on roads throughout the GVRD.

In overview, all services are expanded significantly, as set out in the following tables that show estimates of both the service hours and fleet plan for each service component for the period to 2005. The estimates of service hours and fleet requirements will be fine-tuned in each annual Program Plan and Budget.

Transit Service Hours

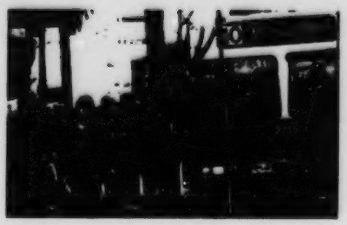
Estimated Annual Transit Service Hours (thousands), 2000-2005

	2000	2001	2002	2003	2004	2005
Service Type	(millions)					
Bus (including SeaBus)	3.62	3.83	4.10	4.36	4.59	4.79
handyDART	0.44	0.46	0.47	0.49	0.51	0.53
SkyTrain	0.63	0.62	0.64	0.75	0.75	0.86
West Coast Express	0.03	0.03	0.03	0.03	0.03	0.03
Total Annual Service Hours	**4.71**	**4.93**	**5.24**	**5.63**	**5.88**	**6.21**

Transit Fleet Plan

Transit Fleet Plan, 2000-2005

Vehicle Type	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
City Bus	1,042	1,074	1,137	1,193	1,254	1,323
B-Line	121	121	136	159	165	165
Express Bus	-	76	91	94	97	100
Community Bus	12	22	32	42	52	52
Total Bus Fleet	**1,175**	**1,293**	**1,396**	**1,488**	**1,568**	**1,640**
handyDART	243	252	261	275	286	296
SkyTrain Mark I	150	150	150	150	150	150
SkyTrain Mark II	20	60	60	67	73	97
West Coast Express (trains)	5	5	6	6	6	6



The proposed expansion of bus services responds to current customer research that shows that the following three service improvements would get the most people to use transit:

1. More **B-Line bus service** with limited transit stops running every 10 minutes with traffic light priority and bus-only lanes.
2. More **direct service linking town centres** such as Surrey Centre, Metrotown, Lougheed Mall, Richmond Centre, Lonsdale Quay, Coquitlam Centre and Downtown Vancouver.
3. **Minibus service** to schools, hospitals, community centres and shopping in neighbourhoods and connecting to high volume transit lines.

In addition, the Plan proposes to increase frequency of services on many existing bus routes by up to 30-40% compared to today. This is a key determinant to attracting greater transit use because research shows that every minute spent waiting at a bus stop is perceived as three minutes by many passengers.

There will also be a greater degree of comfort on buses, with an overall fleet increase from 1,109 buses in 1999 to 1,640 by 2005, or 48%. The expansion of the fleet will be significant and will also offset the reduced seating capacity of newer vehicles. The fleet plan also includes financial provision for the replacement and expansion of the trolleybus fleet by 2002. A wish for expansion of the trolley fleet was a significant feature of the public consultation.

Overall, the package of transit improvements proposed in this Plan is projected to increase transit ridership from 127 million in 1999 to between 153 and 164 million passengers in 2005, depending on the impact of the proposed fare change. This represents a ridership increase of up to 29%. If the proposed transportation demand management and transit priority measures are implemented, transit ridership can be expected to be higher.

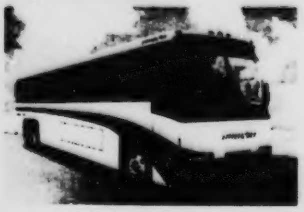
The following sections outline the specific components of the Transit Plan.

4.2.1 Bus System Improvement

ACTION: Expand and improve the quality and diversity of the region's bus service to better meet the different needs of each market in a timely and cost effective fashion.

In 1999, the TransLink Board endorsed the development of four distinct "brands" of bus service. These brands were identified as Express Bus, B-Line, City Bus and Community Shuttles. The overall bus strategy reflects this approach and moves to implement these four brands. The following outlines how each service brand will develop.

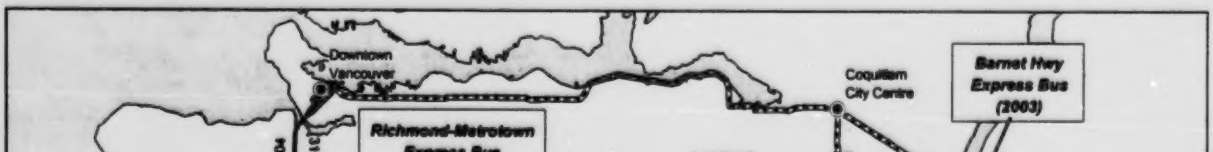
Express Bus



Express Bus is mainly aimed at the longer distance commuter market, using 'highway-type' buses to provide fast, comfortable service. To some degree, it is the bus equivalent of commuter rail. As shown in the map, existing express bus routes using Highway 99 will be improved in the next 5 years using a new fleet of 100 Express Buses. Standing should be eliminated on these routes.

Four new express bus routes will be introduced connecting the following regional town centres: Richmond Centre and Metrotown, Richmond Centre and Surrey City Centre, Surrey City Centre to Coquitlam Centre, and from Langley Centre to the new Braid Street SkyTrain Station or Downtown Vancouver. These will be subject to refinement as part of implementation and some may be marketed as "premium services" with fares appropriate to the level of service.

Existing and Proposed Express Bus Routes


Downtown Vancouver
Coquitlam City Centre
Barnet Hwy Express Bus (2003)
Richmond-Metrotown Express Bus (2002)
Lougheed Mall
601, 602, 603, 604
310, 311, 351, 352
Metrotown
Map
Tow
Downtown New Westminster
Surrey City Centre
Guildford Centre
Surrey-Coquitlam Express Bus (2003)
Richmond City Centre
601, 602, 603, 604
310, 311, 351, 352
310
Richmond-Surrey Express Bus (2001)
310
Newton
311
Surrey Admin. Centre
Langley Town Centre
311, 351, 352
311
351, 352
601
601
602, 603, 604
352
351
352
351
Express Buses

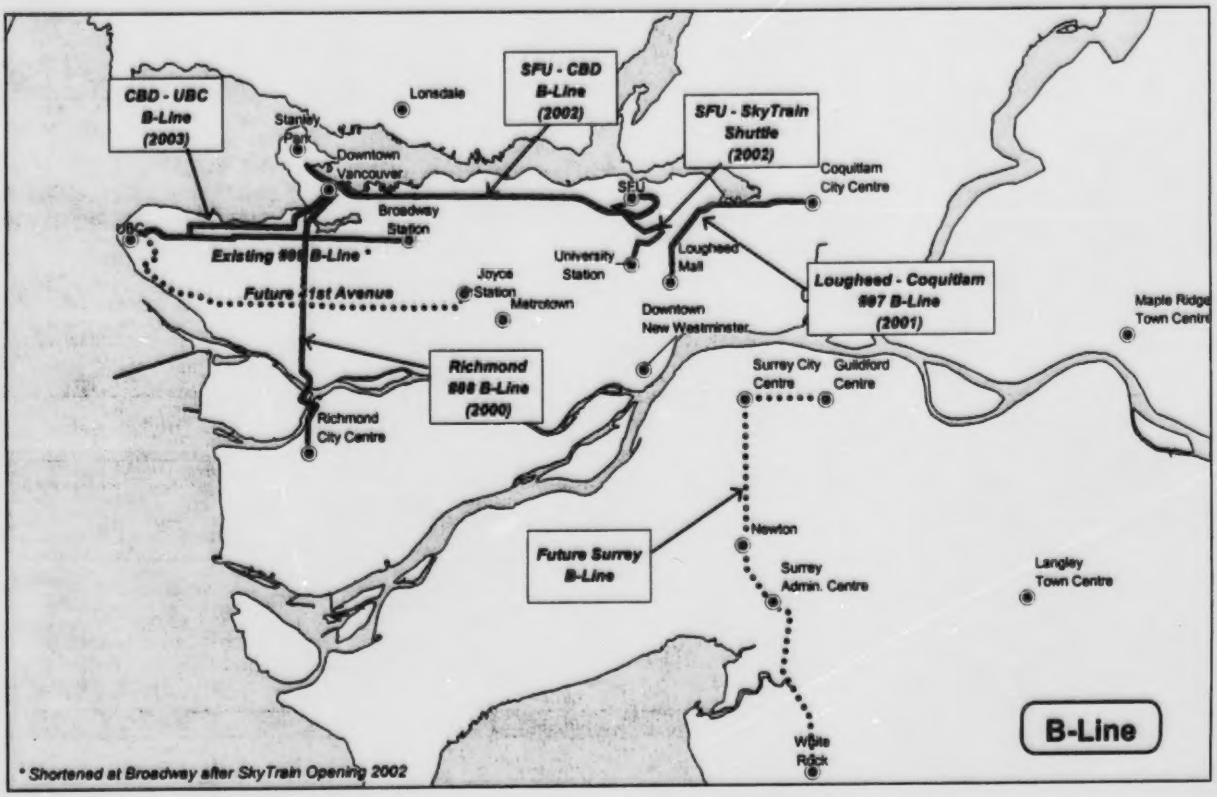
B-Line

B-Line is a high frequency (minimum 10 minute headway), limited stop bus service. The first B-Line service in the region – the '99B' on Broadway – resulted in a dramatic increase in ridership.

Future B-Line services will incorporate new technology that will communicate with the traffic signal system to ensure less delay at traffic lights, and provide accurate information to passengers about the length of time to wait for the next bus. The same system will drive automated on-board announcements of the next stop.

The map below outlines the planned phasing of B-Line routes throughout the region. It is estimated that a fleet of 165 articulated buses will be needed provide these services in 2005.

B-Line


CBD - UBC
B-Line
(2003)
Lonsdale
SFU - CBD
B-Line
(2002)
SFU - SkyTrain
Shuttle
(2002)
Stanley
Park
Downtown
Vancouver
SFU
Coquitlam
City Centre
UBC
Broadway
Station
Existing #98 B-Line *
University
Station
Lougheed
Mall
Future 41st Avenue
Joyce
Station
Metrotown
Lougheed - Coquitlam
#97 B-Line
(2001)
Downtown
New Westminster
Maple Ridg
Town Centr
Richmond
#98 B-Line
(2000)
Surrey City
Centre
Guildford
Centre
Richmond
City Centre
Future Surrey
B-Line
Newton
Surrey
Admin. Centre
Langley
Town Centre
White
Rock
B-Line
* Shortened at Broadway after SkyTrain Opening 2002

City Bus

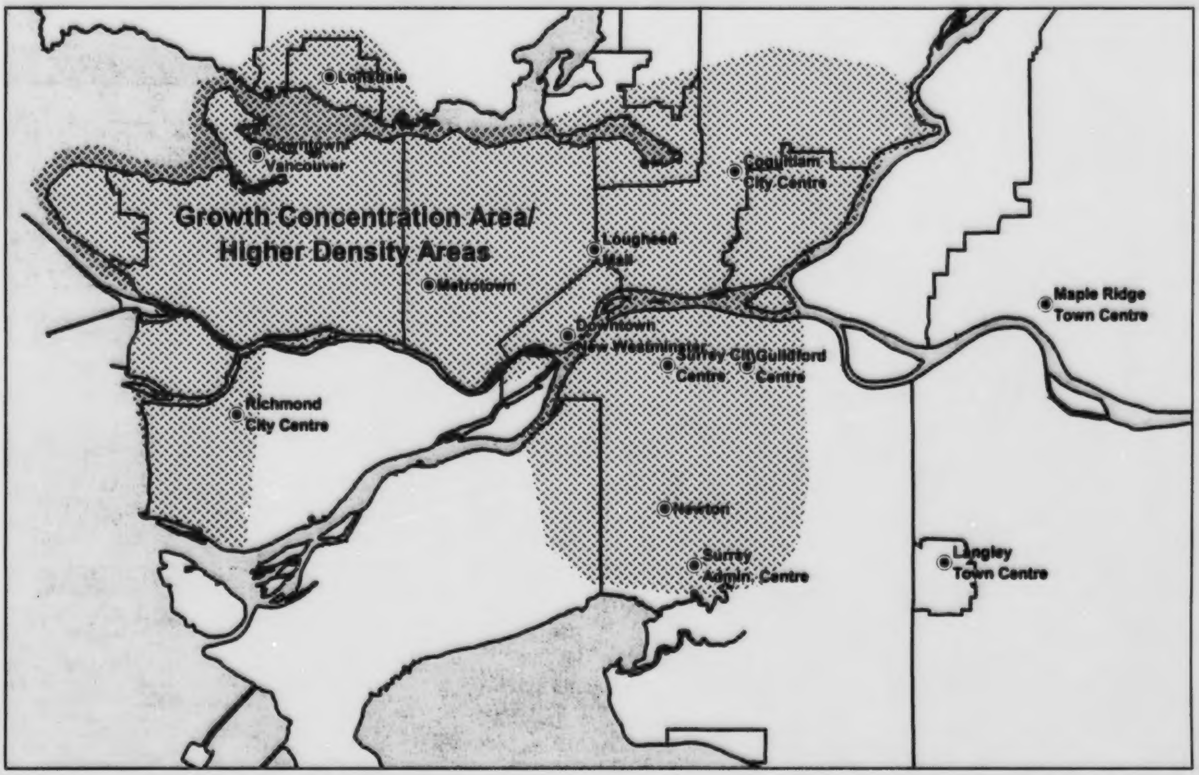
City Bus - is the brand name adopted for the local bus services with frequent stops that currently operate throughout the region and include the trolleybus services. City Bus comprises most of the bus service provided by TransLink today and will continue to remain the major part of bus services with 1,323 vehicles in 2005.

The overall strategy is to raise the level of City Bus service throughout the region, with a stronger emphasis on expansion higher density parts of the region (the Growth Concentration Area and parts of Richmond and the North Shore) and on trunk transit routes.

Selective components of this system will be improved by the introduction of some limited-stop services to improve travel speed, particularly in rush hours (e.g. 41st Avenue in Vancouver). Overall, it will reduce crowding and increase service frequency on many routes by up to 35%.

The overall objective will be to eventually provide a minimum of 10-15 minute service in peak hours in and 15-20 minute daytime service in high density areas.

City Bus Expansion: Focusses On High Density Areas of the Region


Lonsdale
Downtown Vancouver
Growth Concentration Area/
Higher Density Areas
Metrotown
Lougheed Mall
Coquitlam City Centre
Downtown New Westminster
Surrey City Centre
Guildford Centre
Maple Ridge Town Centre
Richmond City Centre
Newton
Surrey Admin. Centre
Langley Town Centre

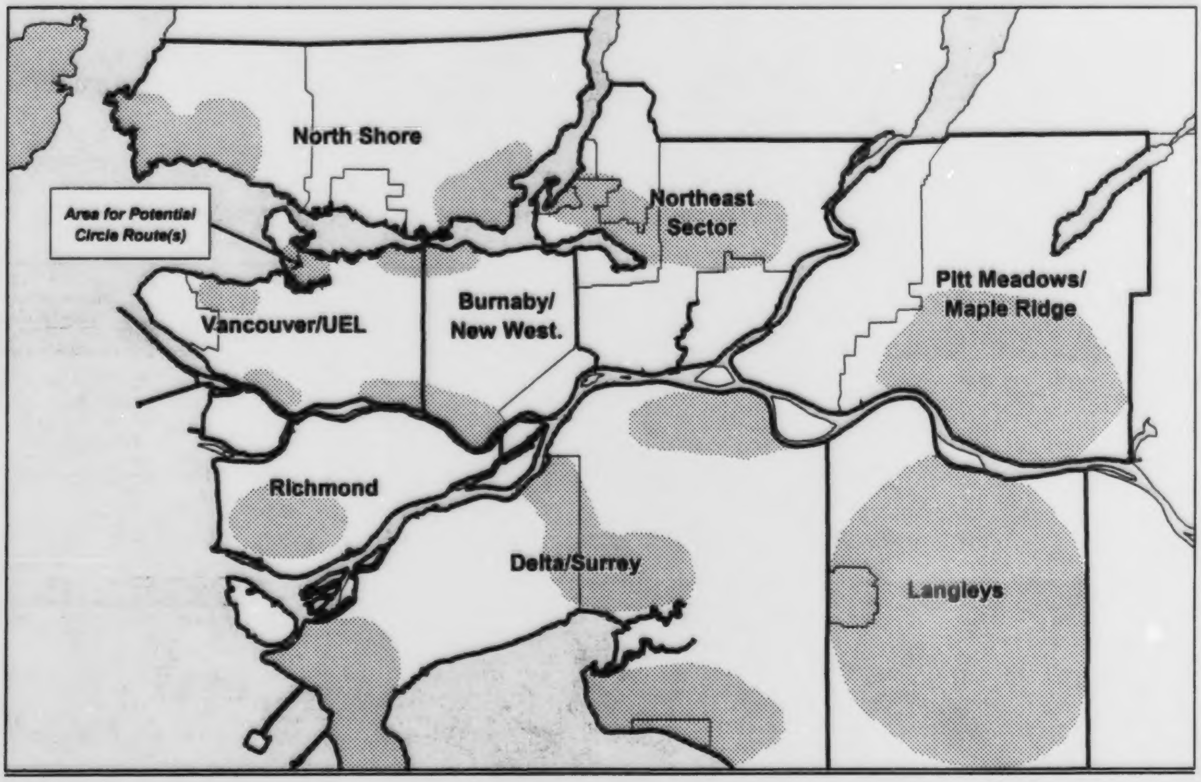
Community Shuttle (Minibuses)

Community Shuttle is used as a generic description for services which can range from a shared ride taxi through to vehicles as large as 30' long, operating on fixed route transit services. There is great demand for these types of services, particularly in suburban areas where large 40' buses are expensive, ineffective and unwelcome by residential communities because of their actual and perceived impacts. There was significant demand for the introduction of minibuses in the Strategic Transportation Plan public consultation process.

Community Shuttle will primarily be used to replace existing conventional bus services that are under-performing and to provide a level of service more compatible with, and responsive to, local demand. Areas being considered for Community Shuttle over the next five years are shown in the map. Up to 90 Community Shuttle buses will be in service by 2005 in many areas throughout the region.

Opportunities also exist for Community Shuttle-type services in Downtown Vancouver as well as "circulator routes" in other town centres.

Potential Community Shuttle Areas

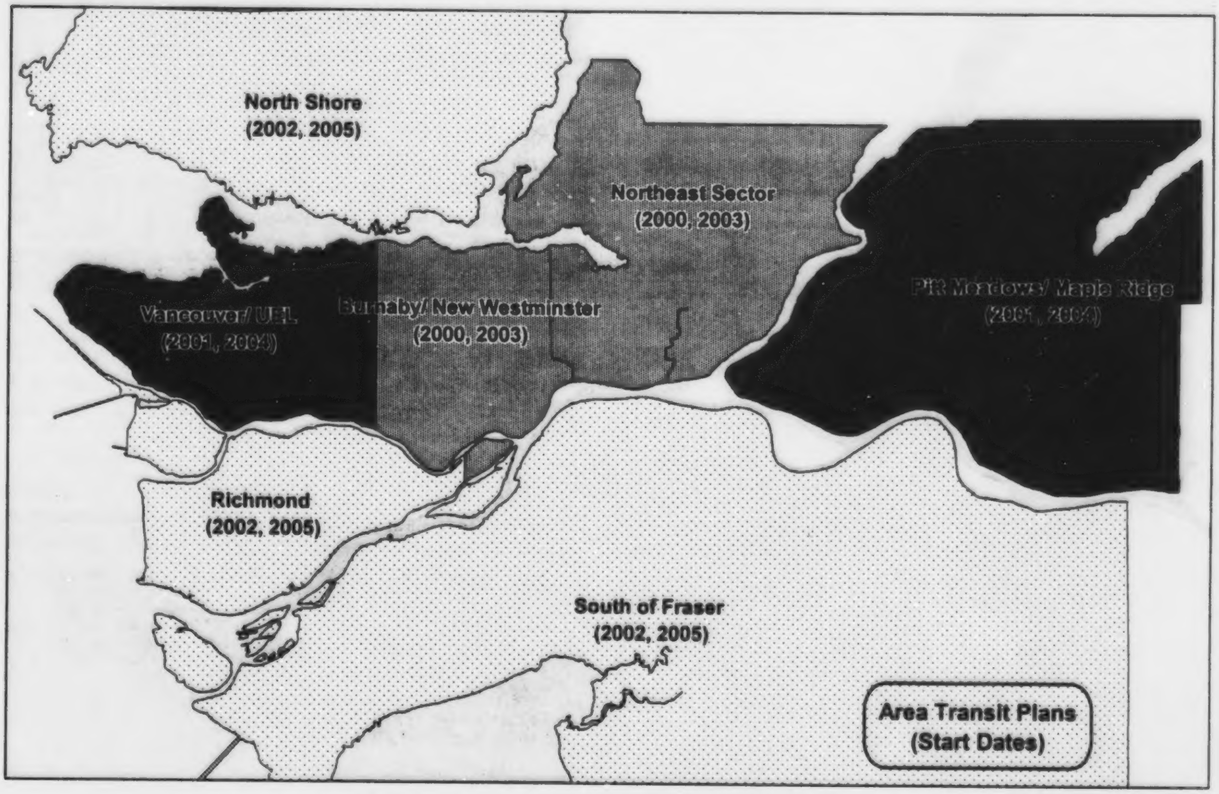

North Shore
Area for Potential Circle Route(s)
Northeast Sector
Vancouver/UEL
Burnaby/ New West.
Pitt Meadows/ Maple Ridge
Richmond
Delta/Surrey
Langleys

4.2.2 Area Transit Plans

ACTION: Maintain an ongoing cycle of community-based transit planning processes that identify specific implementation requirements for transit improvements.

In conjunction with TransLink's annual Program Plan, Area Transit Plans will be the main means of identifying the details and timing of the expansion of transit service identified earlier. Area Plans will identify how the transit strategies and policies will be implemented in each area for the short- and medium-term.

Area Transit Plan Timing


North Shore
(2002, 2005)
Northeast Sector
(2000, 2003)
Vancouver/ UEL
(2001, 2004)
Burnaby/ New Westminster
(2000, 2003)
Pitt Meadows/ Maple Ridge
(2001, 2004)
Richmond
(2002, 2005)
South of Fraser
(2002, 2005)
Area Transit Plans
(Start Dates)

The Plans will focus on both service improvements within the local areas and enhanced connecting services to adjacent parts of the region. The planning process will develop innovative, integrated and cost-effective solutions in close consultation with municipalities, residents, transit users and other key stakeholders in each area.

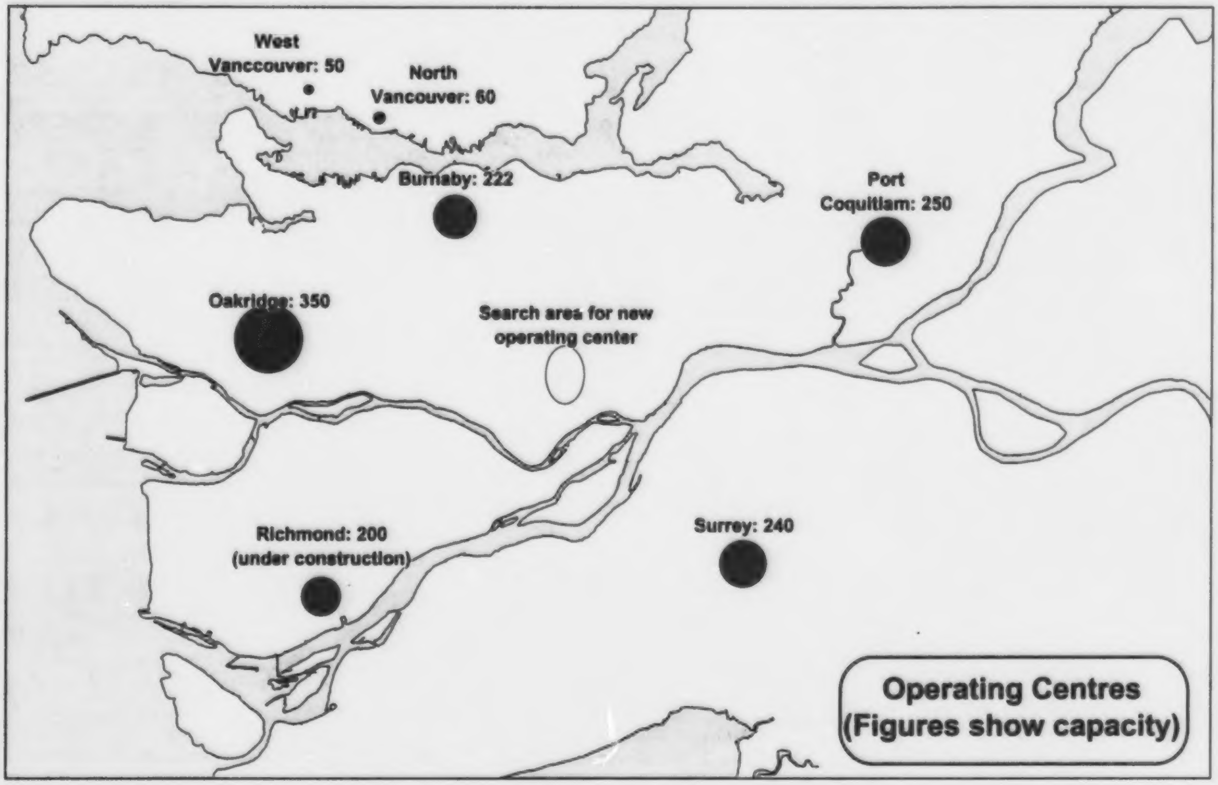
The overall intent is to introduce a fixed cycle for the development of Area Transit Plans.

4.2.3 Transit Operating Centres

ACTION: Provide adequate operating facilities in strategic locations to support the storage and maintenance needs of an expanding bus fleet.

Six operating and maintenance centres across the region are used to store and maintain the bus fleet. While there is some capacity to accommodate the growth planned in the fleet, it will not be adequate. One new operating centre (costing approximately $30 million) will need to be built in the Burnaby/New Westminster area by 2003 and others will need to be upgraded or replaced (Oakridge, North Vancouver and Burnaby) to accommodate the expanded bus fleet. A second new centre will likely be needed before the end of the Plan period.

Transit Operating Centre Capacity


West Vanccouver: 50
North Vancouver: 60
Burnaby: 222
Port Coquitlam: 250
Oakridge: 350
Search area for new operating center
Richmond: 200 (under construction)
Surrey: 240
Operating Centres (Figures show capacity)

4.2.4 SeaBus

ACTION: Provide sufficient SeaBus capacity to meet the existing and future needs on the North Shore.

Growth in demand for SeaBus service is forecast to be modest, and studies conducted to date have not demonstrated significant need or justification for new vessels or more frequency in the medium term. However, some challenges exist in meeting demand for high demand periods, such as special events. TransLink will pursue alternatives for increasing the permitted carrying capacity of the existing vessels, so that demand can be met during these periods.

4.2.5 Potential New Ferry Services

ACTION: Explore new ferry services where they are more cost-effective than land-based alternatives and are compatible with the region's growth management strategy.

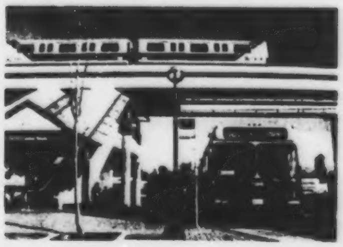
The transportation service region has significant opportunities for new and innovative passenger ferry services, particularly across the Fraser River and the Burrard Inlet, English Bay and False Creek. Many cities on the scale of Greater Vancouver, such as Sydney, Australia, have much more developed marine passenger services for meeting inter and intra-regional travel.

While water bodies are often perceived as barriers for transport, they also provide significant potential opportunities, particularly for transit. Ferry transit services can provide quick, efficient, reliable, congestion-free and cost-effective services from point-to-point. This potential is evidenced by the great successes of SeaBus and the False Creek Ferries in attracting passengers wanting congestion-free "shortcuts" for travel across waterways where a trip by car is much more circuitous and often inconvenient.

Research will be conducted over the next two years to identify opportunities that may exist for passenger services to supplement the existing SeaBus service and to possibly integrate existing private ferry services. The False Creek Ferries may lend themselves to integration with other transit services. There may be other places where private ferry operators can operate with limited or no subsidy as part of the regional transit system, including connections to Howe Sound locations such as Bowen Island as well as across the Fraser River. Based on preliminary work completed to date, it is possible that some of these options may be relatively cost-effective and warrant early implementation.

One potential service innovation that will be considered early in the course of the Plan is "FerryBus" connecting the Langleys with Maple Ridge using a minibus that crosses the Fraser River via the Albion Ferry.

4.2.6 Rail Transit



ACTION: Maximize the use of the existing SkyTrain line by providing increased capacity and improved safety and security.

ACTION: Work with the Provincial Government to complete the "T-Line" as defined in the GVTA Act by 2005.

ACTION: Develop an overall plan for a network of Intermediate Capacity Transit Systems which are affordable and offer a level of service which is capable of fully supporting the needs of the Livable Region Strategic Plan.

ACTION: Begin preliminary planning and design work for the Richmond/Airport rapid transit link to Vancouver.

ACTION: Work with the City of Vancouver and Canadian Pacific Railways to preserve the Arbutus railway corridor for transportation purposes.

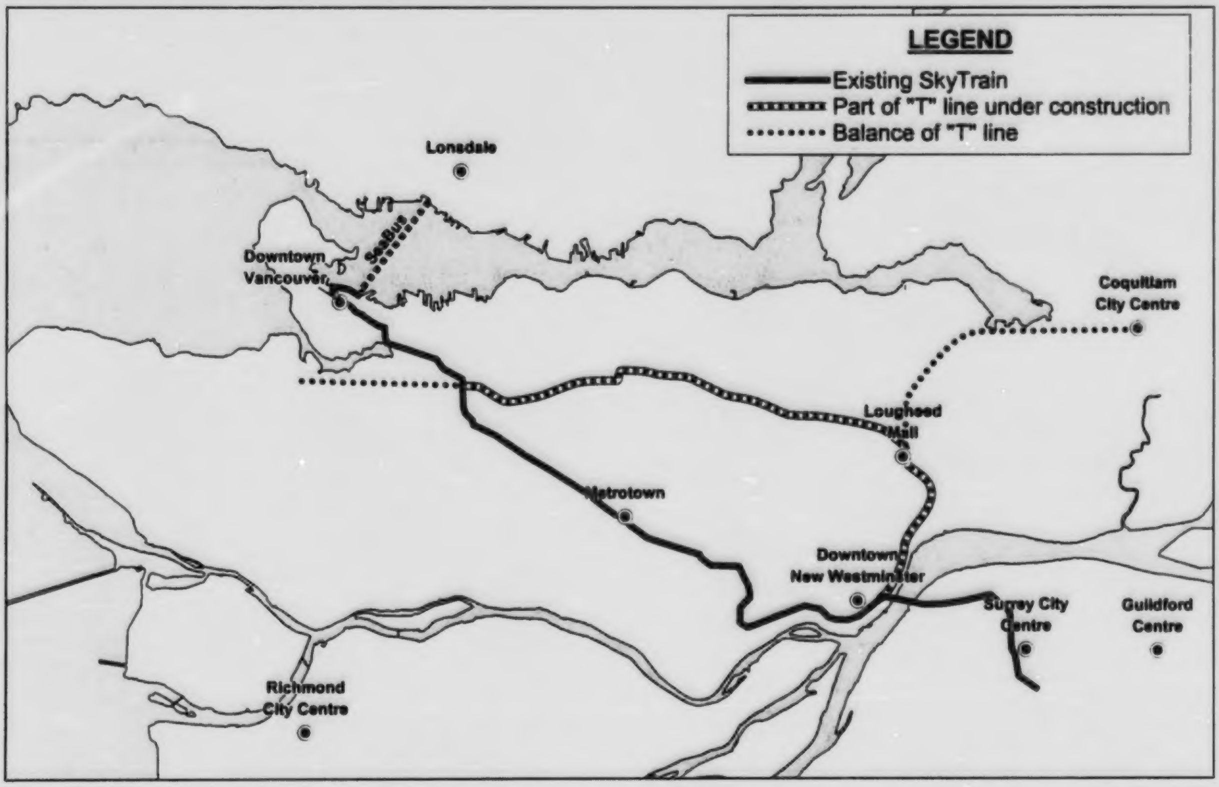
Transport 2021 identified the need for five Intermediate Capacity Rapid Transit Systems, defined as systems capable of carrying up to 10,000 passengers per hour per direction, including segregated busways, LRT or SkyTrain, by the year 2021. Three such lines – New Westminster-Coquitlam, Lougheed to Central Broadway, and Richmond to Vancouver were to be completed by 2006.

The existing Vancouver-Surrey line is now at capacity in the peak periods and the number of vehicles will be expanded in line with previous expansion plans. By January 2001, TransLink will have taken delivery of 20 Mark II cars, which can provide a peak hour capacity increase of approximately 25% over current levels.

Two specific features of SkyTrain need to be addressed in the near term - fare collection and security. The fare system is perceived by many to result in 'significant' numbers of passengers not paying their fares. The issue of personal security is complex. While experience on the system itself suggests the problem is limited, the broader issue of the illegal drug activity in the vicinity of a few stations and the absence of full time personnel in stations further raises concerns by many members of the public.

Studies are underway in conjunction with the Rapid Transit Project Office that will evaluate the costs and benefits of barrier systems and the contribution of retail operations in stations to a sense of safety and security. TransLink will investigate changes in deployment of its security staff to increase their visibility. The results of these studies will be reported in the first half of 2000. Modification of some existing SkyTrain facilities may be appropriate, and if necessary, capital funding will be proposed in TransLink's capital budget.

Existing SkyTrain Line and the Planned "T-Line"


LEGEND
Existing SkyTrain
Part of "T" line under construction
Balance of "T" line
Lonsdale
SeaBus
Downtown Vancouver
Coquitlam City Centre
Lougheed Mall
Metrotown
Downtown New Westminster
Surrey City Centre
Guildford Centre
Richmond City Centre

The SkyTrain project currently being built by the provincial Rapid Transit Project Office is comprised of parts of two of the lines identified by both the Province and the GVRD as high priority. These are the New Westminster to Coquitlam Centre line and the Central Broadway to Lougheed Mall line and together are referred to as the 'T'-Line.

The completion of these two lines, particularly the connection to Coquitlam Centre, is critically important to the achievement of the goals of the Livable Region Strategic Plan. While there is a funding agreement in place to complete the line to Coquitlam, there is not yet a design or final timeline, and the legal agreement between the Province and TransLink has not been finalized.

Completion of these arrangements, as well as planning and implementing the extensions to Coquitlam and Central Broadway, are high priorities. TransLink will continue to work with the Province to achieve agreement on these issues, with particular emphasis on the Coquitlam extension.

The current expansion of SkyTrain will address a portion of the regional need for intermediate capacity rapid transit. Regional plans identified development of the rail transit link from Richmond and the Airport to Vancouver as equal in priority. The planning process for this line will begin in 2001, and will provide input into the Olympic planning process as a potential regional legacy.

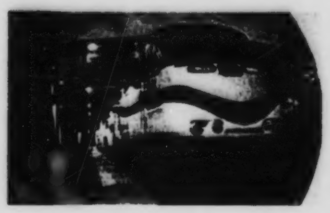
Regional plans have identified additional corridors where intermediate capacity rapid transit systems should be built, but these plans do not explicitly address the appropriate mix of technology for the entire network. It would be useful for the region to have a concept of a long-range 'mature' rapid transit network so that current and future choices can be made with an adequate understanding of the long-term context and consequences of decisions with particular facilities and technologies. The conceptual plan would also identify which corridors and rights-of-way need to be preserved now, and locations of key future interchange points. It will also identify existing rail corridors throughout the region that may not be needed for rail transit projects identified in existing plans, but should be considered as offering some long-term potential.

At the same time, TransLink should examine new intermediate transit technologies that have costs and capacities lying between the SkyTrain and conventional bus services. Neither SkyTrain nor buses may best meet all the needs of suburban transit. Other technologies such as light rail systems, busways, B-Line and guided bus transit systems may offer opportunities to meet regional needs at a lower cost and these should be considered in light of the overall network plan outlined above.

TransLink will undertake planning work to define the route, technology and timing of a rapid transit line connecting Richmond, Vancouver International Airport and Downtown Vancouver. This work will be undertaken in partnership with the municipalities, the Province, and the airport to be completed by the middle of 2001.

As part of the effort to ensure transportation corridors are preserved for future uses, TransLink will begin working immediately with the City of Vancouver and Canadian Pacific Railways to ensure the Arbutus corridor is preserved for transportation purposes. Such railway corridors in established urban areas are rare and present unique opportunities for enhancing the transportation network.

4.2.7 West Coast Express



ACTION: Expand the West Coast Express when it achieves a level of cost-recovery commensurate with the quality, cost and level of service provided relative to other components of the regional transit system.

West Coast Express has been in operation since 1995 and is now a mature service which is popular with its users. A number of decisions need to be made with respect to how the system develops, including the possible addition of a sixth train in 2002. Additional cars have been purchased to expand the capacity of the system without additional locomotives, and their use will be evaluated before an additional train is considered. A Trainbus service with the West Coast brand has proven popular and commands premium fares relative to the conventional system.

Potential issues related to expansion to a sixth train include the potential impact of the planned SkyTrain line to Coquitlam Centre, the level of cost-recovery of the service, and the overall impact on growth management in the region. Some previous studies suggest that the impact of SkyTrain access will be minimal, but these need to be reviewed. If effective links can be established from suburban locations to employment, it may be possible to generate additional usage.

It is proposed that a review be undertaken in 2000/2001 to examine usage and pricing and the impact of SkyTrain expansion to Coquitlam on West Coast Express ridership. Following the study, the desirability of the sixth train will be evaluated. This plan includes financial provision for the introduction of a sixth train in 2002. A fare increase will be recommended, in keeping with the recommended increase to bus fares.

4.2.8 Accessible Transit

ACTION: Increase the variety and number of travel opportunities available to people with disabilities by increasing handyDart services and moving towards a barrier free transit system usable by all members of the community.

The general demographic trend towards an older population and towards people with disabilities being more active has resulted in rapidly growing demand for handyDART.

Today, handyDART service requires pre-booking and is rationed, with priority being given to work, post-secondary education and medical trip purposes. While this has allowed the system to operate within its budgetary constraints, it has resulted in a low level of service to registered users that would be unacceptable to the population in general. To allow for some discretionary, spontaneous travel, handyDART registrants are allowed to buy $80 worth of Taxi Saver vouchers for $40 per month.

One relatively cost-effective way that TransLink can provide greater mobility and a high level of service to handyDART users is by making the conventional transit system fully accessible. TransLink policy is to move towards a conventional transit fleet that is 100% accessible to people with disabilities. This means that vehicles and facilities will be ordered, designed and, where feasible, retrofitted to be conveniently and fully accessible.

In addition, the handyDART service will be enhanced over the next five years through using improved scheduling and communications technology to improve its efficiency and reduce response time for users. TransLink will also support the introduction of shared ride services and the potential to accommodate some of the traditional handyDART users on Community Shuttle. Overall, the handyDART fleet will grow from 236 vehicles today to 296 in 2005.

4.2.9 Transit Passenger Facilities

ACTION: Provide safe, convenient and comfortable off-vehicle facilities for passengers to access and use the transit system.

The provision of bus stops, boarding areas and related facilities, including shelters, is usually the responsibility of member municipalities of the GVRD. Transit exchanges and park and ride facilities are the responsibility of TransLink. Collectively, these facilities are a key part of using the transit system, and their user-friendliness and convenience are important in attracting passengers to the system.

In the period covered by this plan, TransLink will develop warrants and guidelines for the provision of passenger amenities and work with municipalities to begin providing improved "on-street" facilities. Research shows that bus shelters are among the top three features wanted by passengers. The first step would involve researching the experiences of other transit agencies and reviewing these issues with GVRD member municipalities. The implementation of the warrants and boarding area designs will initially emphasize the construction of new shelters on high demand, high volume services.

Transit exchanges are an essential feature of the regional system. Well-designed transfer points and careful scheduling allow passengers to transfer between buses and onto SkyTrain, SeaBus and West Coast Express to complete their journey. The present philosophy of exchanges is to provide minimal facilities since the timed transfer system is intended to minimize passenger waiting, and security concerns have been addressed by reducing the incentive to loiter. This practice will be reviewed. Better-designed transit exchanges would allow people to feel safer and more comfortable using transit.

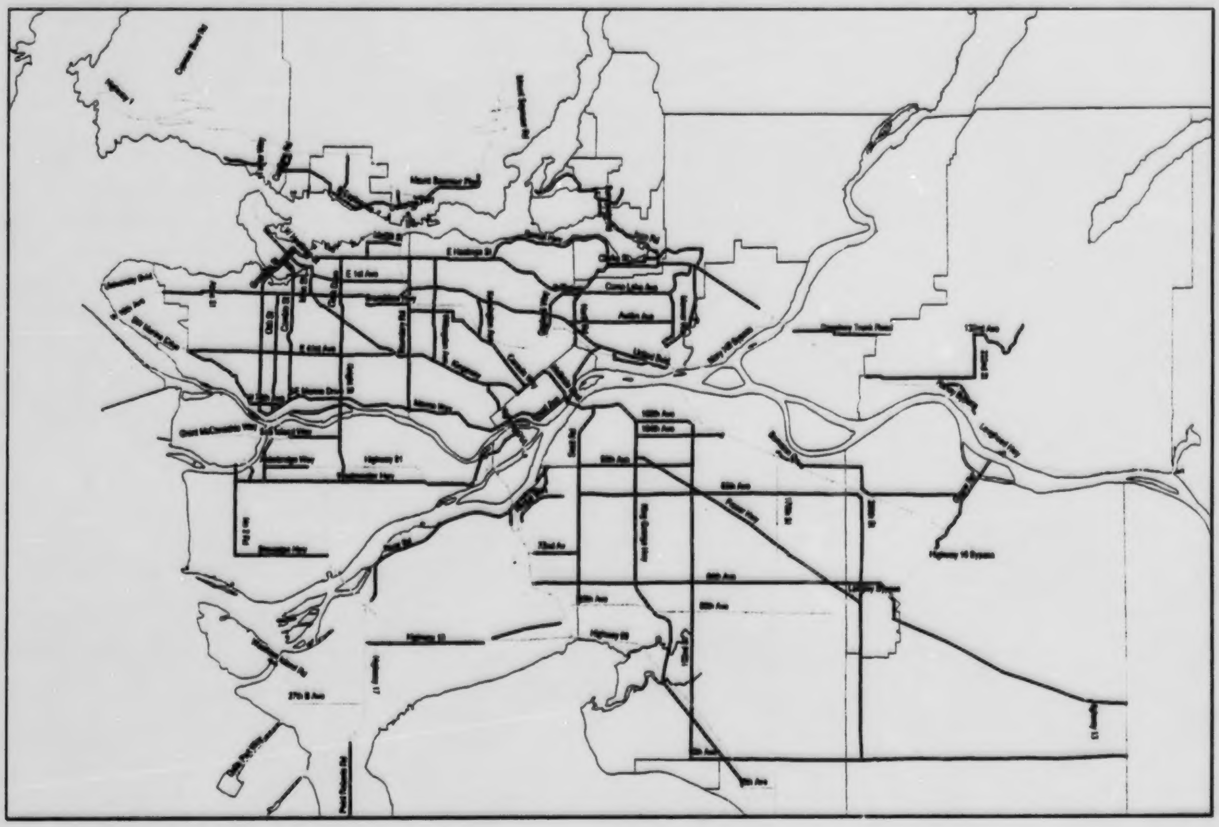
Park and ride lots play a supportive role in the TransLink transit system. Existing park and ride lots allow suburban customers to use automobiles to directly access high quality transit services such as express bus services, SkyTrain and the West Coast Express. While the downside to the use of park and ride lots is that widespread park and ride may encourage automobile dependency and low-density residential development, they clearly shorten single occupant vehicle trips.

4.3 Road and Infrastructure Plan

This section of the plan outlines a strategy in which the Major Road Network and other key transportation infrastructure will be maintained and developed in the next five years. The recommended strategy is designed to ensure that existing assets are maintained and enhanced, and at the same time, provisions are made to address future network needs to meet the demands of a growing region. It should be noted that while the plan identifies at a general level the specific actions and projects to be pursued, these will be subject to periodic review and adjustment over the period of the plan, based on prevailing circumstances.

With respect to roads, the overall policy objective is to operate, maintain and develop the Major Road Network to meet acceptable standards, in a cost-effective manner and in support of regional transportation and growth management goals. Consistent with the 'integrated planning' approach that motivated the creation of TransLink and the Major Road Network, planning for the region's roads will consider its function as a network serving multiple modes and user groups. A concerted effort will be made during the course of the Plan to ensure the application of significant transit priority measures on the Major Road Network and other roads which are used by transit vehicles.

The Major Road Network



4.3.1 *Major Road Network Designation*

ACTION: Maintain the integrity of the Major Road Network by including only roads that meet approved criteria.

The Major Road Network is established to support regional level transportation demand and provide access to key activity centres in the region.

At present, a road is included in the Major Road Network if it:

1. Provides intra-regional access to predefined regional activity centre(s);

and

2. Carries:
   - Minimum of 70% trips longer than 10 km in the peak hour and peak direction and total peak hour, peak direction traffic volume greater than 800 vehicles per hour, or
   - Minimum of 10 through buses in the peak hour and peak direction, or
   - Minimum of 800 trucks per day;

and

3. Meets an overall check for reasonableness and completeness.

It is recognized that over time the network will need to be reviewed and refined to reflect changing land use and travel patterns and to ensure that it continues to fulfil a regional function. Whether the review should be conducted on a periodic basis (e.g. annually or bi-annually), or be triggered by significant events such as the construction of a major facility or significant changes in land use, will be the subject of further review in the year 2000.

4.3.2 *Major Road Network Maintenance and Rehabilitation*

ACTION: Implement maintenance standards and cost tracking to ensure that the Major Road Network is maintained to acceptable standards and in a cost-effective manner.

All roads in the Major Road Network remain under municipal control. Operations, maintenance, rehabilitation and construction are carried out by the municipalities. TransLink's role is to ensure that the Major Road Network is maintained and rehabilitated to acceptable standards and in a cost-effective manner. The funding for the maintenance and rehabilitation of the Major Road Network will increase to a level of $12,000/lane-km/year and cover the following activities:

- Routine maintenance and operations of pavement, shoulders, drainage, pedestrian facilities, street lighting, traffic signals, road markings and delineation, signage, street cleaning, snow and ice control and vegetation control.
- Rehabilitation (major rebuilding) of existing pavement.
- Rehabilitation of other existing infrastructure such as curbs, shoulders, pedestrian facilities, drainage, street lighting and traffic signal system, etc.

A long term funding administration and performance monitoring arrangement will be developed and implemented to guide the maintenance and rehabilitation of the Major Road Network. It will include the identification of appropriate standards and a cost tracking system. In addition to the routine maintenance and rehabilitation on the Major Road Network, TransLink will also be funding major pavement rehabilitation of below-standard roads devolved from the Province.

Municipalities have also committed to do the same on the below-standard uploaded municipal roads.

4.3.3 TransLink Bridges

ACTION: Maintain TransLink-owned structures to acceptable standards and in a cost-effective manner.

TransLink owns three structures, namely the Knight, Pattullo and Westham Island Bridges. The Knight and Pattullo Bridges are major structures that are key elements of the Major Road Network. Arrangements will be made to ensure the maintenance of these structures is performed in a safe and economic manner.

All three structures are in need of some rehabilitation within the next 5 years. Structural and engineering work will be undertaken starting in 2000 in preparation for the rehabilitation works which will be completed by 2005 at an estimated cost of approximately $45 million.

4.3.4 Road Capital Projects

ACTION: Improve the efficiency of the Major Road Network by funding annual programs of minor capital projects on the network and maximize the investments by establishing cost-sharing arrangements with municipalities.

ACTION: Develop partnerships with municipal, provincial and federal governments and the private sector in the planning, funding and implementation of major capital projects.

ACTION: Establish a capital allocation of $5 million in 2000, rising to $40 million in 2004, for provision of new major road facilities in partnership with other agencies.

ACTION: Act, in consultation with the municipalities, to establish a clear process for assessing environmental and community impacts of major transportation projects.

Prior to TransLink being established, there was no Major Road Network. As a result, there was no plan identifying future capital needs for the Major Road Network.

In 1999, municipal staff on the Major Roads Technical Advisory Committee started to investigate capital needs. The Major Roads Technical Advisory Committee examined the level of future capital spending and concluded that the total level of capital spending on the "Strategic Road Network", regardless of jurisdiction, should be approximately $120 million annually. This would include both improvements to the existing Major Road Network, as well as new projects that might be Major Roads or provincial roads.

To reflect a cost-sharing principle in these projects, it was concluded that TransLink should allocate a capital funding envelope of approximately half of the total; therefore a figure of $60 million is identified. As discussed below, the capital budget will be structured in two components (i.e., minor and major projects).

Minor Capital Projects

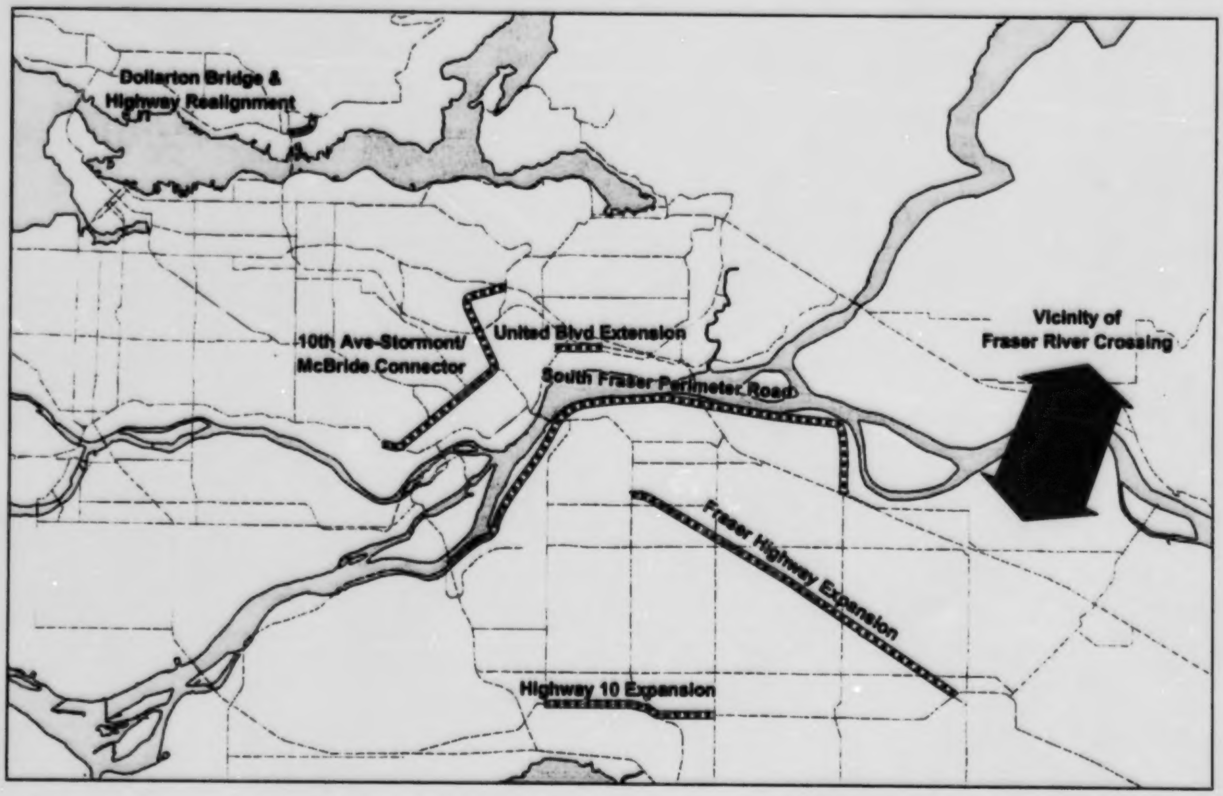
A main focus of the capital program will be to fund an on-going program of minor capital projects aimed at managing and improving the efficiency of the existing network, such as intersection, geometric, safety and network continuity improvements, etc. A carefully planned and co-ordinated program of small projects could collectively defer or minimize the need for more costly constructions of large-scale new facilities which often have more social and environmental impacts and might or might not support regional land use objectives.

An initial annual TransLink budget of $10 million will be allocated in the year 2000, which will incrementally increase to $20 million by 2005. The Major Road Network Minor Capital Program will be administered using a 50/50 municipal and TransLink cost-sharing arrangement. Each municipality will be eligible for project cost-sharing for up to an amount based on a pre-determined formula. The Major Road Network Minor Capital Program will be implemented based on a rolling 5-year planning cycle. A project evaluation or "business case" process will be developed and implemented in 2000 to determine the eligibility and priorities of the projects.

Major Capital Projects

TransLink will pursue the establishment of a partnership with the Province so that a "Strategic Road Network", comprised of the Major Road Network and provincial facilities, can be planned as one seamless system of 'important' or 'strategic' roads which serves the region. This will provide the needed framework to advance much needed network-level road improvements and system initiatives such as regional signal co-ordination and Intelligent Transportation Systems applications.

Potential Major Capital Projects


Dollarton Bridge &
Highway Realignment
10th Ave-Stormont/
McBride Connector
United Blvd Extension
South Fraser Perimeter Road
Vicinity of
Fraser River Crossing
Fraser Highway Expansion
Highway 10 Expansion

A review of existing agency plans was conducted to identify candidate projects which might have a strategic role in serving the transportation demand of the region. A number of projects appear to have general support by various agencies as indicated by their planning documents (Livable Region Strategic Plan, Transport 2021, Lower Mainland Highway Improvement Outlook, municipal and Gateway Council plans, etc.).

TransLink will seek partnerships with the Province and others in further examination of the following projects:

- South Fraser Perimeter Road
- North Fraser Perimeter Road (United Boulevard extension)
- Fraser River Crossing (which will replace the Albion Ferry service)
- Stormont-McBride Connector
- Fraser Highway widening
- Highway 10 widening
- Dollarton Bridge and Highway realignment

Further analysis and a full scale Multiple Account Evaluation are needed to fully weigh the benefits against the potential impacts of these projects including environmental and social impacts, support for regional land use objectives, impact on transit, and financial implications. The initial planning work will be conducted in the year 2000, and pending the findings of this work, an implementation plan will then be developed for the recommended projects.

The plan includes the provision of an annual funding envelope, starting with $5 million in 2000 and increasing to a funding level of $40 million by 2005, to start to implement selected strategic major road projects. By March 2001, TransLink will work with municipalities, the GVRD, the Province and federal agencies to identify a process for establishing priorities for major capital projects. This will include identifying broader assessment of community, environmental and other impacts. However, the Plan recognizes that TransLink is not a direct operator of major roads and, to some extend, the establishment of priorities will be significantly dependent on others and their funding priorities. Nonetheless, TransLink will seek to clarify the public process for determining the roads capital program.

The process for dealing with major road capital is illustrative of TransLink's role and function as the convenor of partnerships and its ability to create a forum between government and non-government entities to deal with transportation issues.

It should be noted that many of the candidate projects may lend themselves to tolling or other methods of cost recovery (e.g. South Fraser Perimeter Road, Fraser River Crossing).

Many factors will determine whether a major road capital project can proceed, including local acceptance, the availability of senior government cost-sharing, and major development plans. The proposed annual allocation is not associated with any particular project, and should be accumulated until a feasible and desirable project is identified.

4.3.5 *Transit Priority*

ACTION: Work with municipalities to develop a comprehensive program for providing priority to TransLink buses on the Major Road Network.

The public consultation process identified that improved bus speed is a top priority. While this can be addressed to some degree with limited stop bus routes, an aggressive transit priority program is needed to give bus greater "status" on the region's roads.

Growing traffic congestion increases transit travel time and reduces reliability. This adversely affects transit competitiveness and increases TransLink's cost of providing service. Since 1990, it is estimate that growing congestion has added an estimated $15 million in annual operating costs to TransLink's bus services. Congestion delay not only increases operating costs and vehicle requirements in maintaining existing service levels, it precludes the deployment of these resources to increase and improve service.

In many cases, improving transit speeds and reliability represents a least-cost solution to service improvements. Some priority measures (such as bus "bulges") are simple, low-cost changes that be done relatively quickly. Other measures (such as bus lanes and bus friendly signals) may require more resources and time to implement.

Rail is popular, in part, because its segregation from traffic offers freedom from traffic congestion. Insofar as transit priority measures can mimic this avoidance of congestion, they represent a low-cost way of capturing some of the same benefits of rail.

TransLink will work with municipalities early in the Plan to develop a program that identifies priority measures for implementing transit priority on the Major Road Network and other municipal roads used by transit.

4.3.6 *Albion Ferry*

ACTION: Operate the Albion Ferry service in an efficient and cost-effective manner and develop a strategy to implement a fixed link crossing.

The Albion Ferry provides the only crossing of the Fraser River between the Port Mann Bridge and the Mission Bridge in Abbotsford. The number of vehicles using the ferry has been increasing steadily. In 1998, the ferry carried 1.4 million vehicles. The ferry is currently operating at its vehicle carrying capacity during the peak periods.

A permanent and high standard connection between the areas is needed to accommodate the anticipated travel between the North and South Fraser. A strategy to implement a fixed link crossing in the medium term (i.e. 5 to 10 years) will be developed over the next two years. In the interim period, until a fixed link crossing is in place, TransLink will continue to provide the existing ferry service in an efficient and cost-effective manner. To accommodate the anticipated ridership growth without adding to the fleet, a number of short-term, low cost initiatives such as schedule adjustment, carpool lanes and better bus access will be explored.

4.3.7 Cycling Infrastructure

ACTION: Implement a program for the development of cycling infrastructure and supporting facilities.

The Plan includes financial provision to allow a program for the development of a regional cycling network of local and regional facilities, modal interchange facilities (e.g., bike lockers and racks) and other cycling facilities.

4.3.8 Intelligent Transportation Systems Implementation

ACTION: Develop a vision and strategic plan for Intelligent Transportation Systems in the region in 2000, and implement initiatives based on that plan in subsequent years.

The detailed nature and arrangements for broad Intelligent Transportation Systems implementation are uncertain at this time. Provision has already been made for automatic vehicle location and signal integration for the Richmond B-Line, and for electronic fareboxes. Existing funding can provide for a trial implementation of automatic passenger counters.

Other expenditures in 2000 will be primarily operating costs associated with consultant development of an intelligent transportation systems vision and implementation strategy for the region.

A provision for intelligent transportation systems of approximately $2 million per year has been included in the projected capital expenditures, and some allowance made for operating costs. Alternative private sector capital funding mechanisms may also be applicable to intelligent transportation systems. A more definitive picture of costs and benefits can be provided after initial studies are complete.

One key factor to achieving increased operating efficiencies in all TransLink services and infrastructure is much better information regarding transit ridership, and travel times, patterns and usage by all modes, including goods vehicles. In order to optimize investment in transportation, better data is needed so that "smarter" decisions can be made. A particular emphasis will be made to improve the gathering and evaluation of transit data that has suffered from under-investment in recent years. It is proposed to deploy enhanced monitoring systems and technologies that aid in the process of realizing economies in the system and provide better customer information. This will start with the manual collection of data in 2000 and by 2005 it is planned to have deployed several systems.

4.4 The Management Strategy

4.4.1 Demand Management

I) Transportation Pricing and Revenue Generation

ACTION: Move toward road pricing, with tolls on new facilities to recover cost as permitted under the Greater Vancouver Transportation Authority Act, and a request to the Province for authority for system tolling to manage use.

ACTION: Implement an annual vehicle charge, with the structure of the charge – e.g. flat, mileage based, pollution based – with further public consultation, as a move toward transportation pricing and as part of the Financial Plan.

ACTION: Implement a parking tax, established within an overall parking policy, as part of a transportation pricing program to limit the growth of single occupant vehicle travel and as part of the Financial Plan.

ACTION: Ensure that transit users pay a fare that reflects the benefit they receive from the transit system and overall recovers at least 50% of the system operating cost, while maintaining fares at a level which will promote use and a fare structure which will maintain affordability for the economically disadvantaged.

ACTION: Develop a fare strategy by the end of 2001, including a technology plan.

ACTION: Develop a comprehensive program to minimize transit fare evasion and maximizes fare compliance and revenues while maintaining system operating efficiency.

ACTION: Consider the application of benefiting area charges in the development of new transportation facilities.

Pricing use of the transportation system in a way that will limit the growth in single occupant vehicle travel is a powerful tool for overall management of the transportation system. It also provides revenue for the development and operation of the system. Achieving the transportation improvements envisaged in this transportation plan will require significant capital and operating expenditures, and will require additional revenues.

To the maximum extent practical and equitable, TransLink should raise the revenues required in ways that shape transportation demand. From this perspective, the "best" sources of revenues are those directly associated with use of the transportation system, rather than charges that are separated in time (annual charges). Tolls and parking charges are superior to annual charges. In many circumstances, tolls may also make road capacity available for goods movement by reducing auto utilization of the tolled facility, and providing time savings through reduced congestion which will justify the tolls paid by trucks and other road users.

The opinion research and consultation revealed a public preference for the implementation of system tolling over a flat vehicle charge. Such an approach to pricing infrastructure, raising revenues and managing peak period road use is more effective than an annual vehicle charge.

The public acceptance of such an approach to transportation financing will likely increase if concomitant reductions in non-transport related revenue sources coincides with its introduction (e.g. expenditure remaining equal, the measure is revenue neutral). It will also increase if such pricing is coordinated with incentives for transportation alternatives (e.g. combined transit pass/car insurance product, etc.).

At present, TransLink does not have the authority to 'system toll' and will need to work with the Provincial government to develop the necessary amendments to the GVTA legislation.

Fares are of critical importance to TransLink as a major determinant of transit use and TransLink's single largest source of revenue. Within the overall system, there are broad differences in cost recovery. Individual bus routes can vary from close to 100% to less than 20%, however the bus system as a whole is around 48% today. SkyTrain is higher, approaching 80% of operating costs. Recovery on the West Coast Express is less than 40%. Currently, transit recovers approximately 50% of operating cost through fares, and the Plan establishes this as a minimum target for fare recovery (these ratios are important indicators in the capital market).

TransLink will develop an overall fare strategy in 2000/01 that also incorporates a fare collection technology plan. This strategy will address concerns regarding the "coarseness" of the zone system and will seek to more directly relate fares to the cost and benefit of the service provided and the trips that are taken. Significant revisions to the fare structure may have to await the introduction of "smart card" technology. This technology offers the potential for a more flexible fare structure, distance pricing, variable charges by time of day, and user incentives.

The fare strategy will also examine the potential for innovative fare products. One potential innovation is a "U-Pass," or a "universal" pass program. U-Pass programs offer the potential to address the transit needs of major institutions and employers by providing improved transit services and a range of alternative services. These are combined with bulk transit pass sales and transportation demand management measures, such as parking fees, to reduce the cost of the passes. TransLink is currently investigating the feasibility of the U-Pass system with the University of British Columbia. The improved accessibility provided by transit and other alternatives, combined with greater incentives to leave the car at home, can significantly reduce single occupant vehicle trips and increase transit ridership.

The perception of fare evasion was a common issue in the Strategic Transportation Plan consultation process, particularly in relation to SkyTrain. Fare evasion raises concerns about equity for paying passengers and the efficient use of public resources, and is an issue that transit systems globally must contend with.

While monitoring of fare evasion on the TransLink system has shown that it is lower than many perceive it to be, it is still a significant issue and steps must be taken to minimize losses and also to demonstrate that these steps are effective.

A Fare Compliance Cost-Benefit study is currently underway that will identify cost-effective measures of maximizing fare compliance, specifically in 'proof of payment zones' (e.g. SkyTrain and Richmond B-Line). Examples of potential measures include the possible introduction of turnstiles at SkyTrain stations, increased enforcement by ticket checkers and the use of 'SmartCards' that automatically debit the appropriate fare when the transit system is accessed. The automatic fareboxes, scheduled for installation beginning 2000 on all TransLink buses, is one immediate measure that will increase fare compliance and minimize driver-passenger disputes.

In many cases, new rail transit systems and major roads bring disproportionate benefits to adjacent property owners. The Greater Vancouver Transportation Authority Act allows for benefiting area charges, and the application of these charges should be considered on major new facilities. There are, however, many challenges that exist in implementing a benefitting area charge. The practicality and equity implications of such a charge will need to be evaluated before serious consideration is given to its use.

In order to fund expanded transportation services, TransLink will require additional revenue in 2000 and succeeding years. While transportation pricing is central to achieving the Livable Region Strategic Plan objectives, there is limited ability to apply pricing fully at this point. TransLink should move quickly to implement an approach which will both fund the immediate needs of the transportation system and provide the ability to price choices to influence demand in future. The actions above implement this direction.

ii) Parking Management

ACTION: As matter of priority, establish through the Regional Administrators Advisory Committee (RAAC) a process to develop Regional Parking Strategy by the end of 2001.

2
HR
PARKING
7:30AM
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The supply, price and regulation of parking are key determinants of individual mode choice. Since the choice of whether to drive, ride a motorcycle, take transit or a taxi, walk or cycle is based on the relative attractiveness of these various modes, the supply and price of parking influence the decision to drive or ride a motorcycle.

Parking management is a central element in the Transportation Demand Management strategy of the Livable Region Strategic Plan and Transport 2021. These plans set a target for various TDM measures to produce a 10% reduction in peak hour vehicle trips by 2021 and a 25% increase in transit ridership. Parking management is central to achieving this, however little action has been taken in this area to date.

Transport 2021 recommended that development of a regional parking strategy should start by 1994. The region is therefore 5 years behind projected implementation for this critical component of the transportation system.

The transit investment strategy of this Plan is based on the assumption that TransLink and member municipalities will take steps to manage parking. TransLink, in partnership with the municipalities, and in consultation with community and business interests, will work to develop a Draft Regional Parking Plan to manage the supply, pricing and regulation of parking by the fall of 2001.

iii) Alternatives to the Single Occupant Vehicle

ACTION: Expand vanpool and carpool programs, encourage the development of shared use vehicles, and promote these alternatives and teleworking as alternatives to the single occupant vehicle.

There are many non-traditional forms of transportation services that offer a broader range of consumer choice and can be used to reduce dependence on single occupant vehicles. In 2000, TransLink will work to develop a comprehensive plan for these choices that can be deployed by TransLink and its partners in a staged manner over the following four years. Where appropriate, pilot projects may be introduced in 2000. Program components will include:

1. **Ridesharing:** Expand existing carpool, vanpool and ridematching programs; and examine current program structure. Assess opportunities to gain efficiencies and, where possible, deliver more cost-effective service through a re-organization of major program components.
2. **Advocacy and Education:** Expand existing Employer Services program (Go Green Choices); pursue legislative and policy changes that would support the growth of the rideshare market and other preferred modes; and integrate all elements of the Trip Reduction program into a brand identity package.
3. **Shared Vehicles:** Provide support for the development and use of shared-use vehicles in the region.
4. **'Virtual Offices':** Assess the potential for expansion of teleworking (telecommuting) and related forms of technologically-driven communications forums to contribute to a reduction in work-related single occupant vehicle trips.

4.4.2 Cycling

ACTION: Work with municipalities and the Province to provide a range of cycling programs, services and infrastructure that increase the use of cycling as a mode of transport for all trip purposes.

The bicycle has the potential to replace many local and some regional trips for work, shopping, social and recreational purposes. Compared to some other cities, cycling's potential in the GVRD appears to be relatively untapped. While some progress on improving cycling conditions has been made in recent years, the regional transportation system is not well adapted to cycling. Roads and bridges do not accommodate cyclists very well, end-of-trip facilities (such as racks, bike lockers and change rooms) are not common, fear of traffic is a deterrent to many and there are few educational and promotional programs to encourage people to cycle safely.

The first five years of TransLink's cycling strategy will define a regional role in cycling that complements the efforts of the local and provincial governments and will focus on priority infrastructure, services and programs that will reduce car trips in the region. A significant amount of work has already been completed in the process of developing a Comprehensive Regional Bike Plan. This plan is being prepared in consultation with municipal staff and will include the following directions:

1. In partnership with municipalities and the Province, develop and fund a comprehensive network of local and regional bicycle routes.

2. Develop and implement cycling programs and communications initiatives (e.g. awareness, education, safety, skills training) that promote cycling as transportation.
3. Make all transit services bicycle accessible by:
    - providing bike racks on all buses in the region as early as possible;
    - expanding rack and secure bike locker facilities at potential key transit nodes; and
    - working towards accommodating bikes on SkyTrain.

4.4.3 Walking

ACTION: Construct pedestrian-friendly transit interchanges.

ACTION: Work with municipalities to establish design criteria for major road capital programs to ensure that full attention is paid to pedestrian amenity.

"Walkability" is the cornerstone to a region's efficient ground transportation. Almost all trips begin and end with walking. Walking remains the cheapest form of transport for able-bodied people. As with cycling, walking has good potential to play a more important role in the future for a variety of trip purposes, including school, work, shopping and recreation. About one-quarter of all trips are less than 1.5 km long, a comfortable walking distance for many people. A walkable community provides the most affordable transportation system any community can attain. Land use planning is the most significant determinant of walking trips, but TransLink can play a direct role through design of pedestrian-friendly transit interchanges, and through ensuring that attention is paid to pedestrian amenity in the design of Major Road Network capital projects.

4.4.4 Major Development Review

ACTION: Give priority to finalizing the process whereby TransLink reviews Official Community Plan amendments and "major development proposals."

ACTION: Work with municipalities to establish criteria for developments which support the Livable Region Strategic Plan from a transportation perspective and seek the cooperation of municipalities through their development approval processes to ensure development supports the Strategic Transportation Plan.

Official Community Plan amendments and major development proposals, especially those outside town centres, can have a significant impact on the ability of the transportation system to meet Livable Region Strategic Plan objectives. The Greater Vancouver Transportation Authority Act states that TransLink "*... review and advise the Greater Vancouver Regional District, the municipalities and the government regarding the implications to the regional transportation system of ... major development proposals and provincial highway infrastructure plans in the transportation service region*". For this purpose, TransLink will give priority to developing processes and reaching agreement with municipalities on the criteria for evaluating Official Community Plan amendments and major development proposal.

Some work toward establishing criteria for major development proposals has been undertaken, but this must be completed and a review process established. This is an important TransLink function that requires attention.

More generally, municipalities are frequently presented with rezoning proposals outside their primary development areas. These developments can be difficult to reach by walking or cycling, or serve with transit. Some municipalities have suggested that it would be helpful for TransLink to propose criteria for evaluation of these developments for use by municipalities in their zoning process.

This is a complex issue, involving many interests. It will be addressed in the review of the Livable Region Strategic Plan and long range transportation plan which will begin in 2001. TransLink will allocate time to this issue, in preparation for this review.

4.4.5 Customer Focus

i) Market and Customer Satisfaction Research

ACTION: Conduct market research to determine customer needs prior to the implementation of new transit and alternative transportation services and evaluate customer satisfaction after the services are in place.

New transit services and vanpool, carpool, and other alternatives must meet customer needs and preferences if they are to be effective and economical. Market research can help to determine what type of service best meets customer needs, what equipment features will be most attractive, and what fares or fees can be charged. Customer satisfaction research will allow assessment of service decisions and guide future service changes. TransLink will conduct this research on all new services and will conduct regular customer satisfaction surveys.

ii) Plan for Safety and Security

ACTION: Pursue improvements to personal safety and security in and on transit services through the application of Crime Prevention Through Environmental Design Principles and the evaluation of the cost-benefit of barrier systems and additional staffing at key locations.

ACTION: Improve road safety by working with municipalities to maximize safety through the design and management of transportation infrastructure and services and through partnerships with public and private organizations.

There are two aspects of "safety" that TransLink must address. The first relates to personal safety (i.e. fear of assault) while the second relates to accident safety.

With respect to personal safety, transit users have identified safety and security as significant issues at transit exchanges and on the transit system. While, by all reasonable measures, the transit system is safe, improvements can be made, and user perception may be an important factor in promoting transit use.

Major studies are underway with the Province's Rapid Transit Project Office to address the benefits of barrier systems, station design, and the contribution of retail uses to a perception of security in SkyTrain. There is merit in continuing review of existing SkyTrain facilities and bus exchanges, and some capital expenditure for improvements in the existing SkyTrain system may be warranted. TransLink staff will undertake the review of the existing system.

With regard to traffic accidents, TransLink has a responsibility to work with municipalities to ensure the design and management of the road system improves public safety for all transportation system users. Every year in the GVRD, approximately 90 people are killed and 16,700 are injured in motor vehicle accidents. In particular, "vulnerable road users" such as pedestrians and cyclist bear a disproportionate impact of these accidents. Public awareness, improved infrastructure and service design and increased use of alternative modes can all help to reduce accidents.

TransLink needs to monitor and evaluate safety on its transportation network and feed the evaluation of this information into the planning and management of the system.

There is also much that can be done to gain synergies with other agencies and organizations doing work to improve safety. TransLink can work with government agencies such as ICBC and the Ministry of Transportation and Highways, as well as road user interests (e.g. pedestrian, cycling, motorcycling and auto groups).

In particular, TransLink will need to establish a strong working relationship with ICBC to measure transportation safety and develop protocol for addressing safety issues of mutual responsibility.

iii) Customer Information

ACTION: Support the shift to preferred transportation options through improved access to accurate, timely and user-friendly service information.

Accurate, easily accessible, and ultimately real time information is an important component in achieving full utilization of all services. For maximum benefit, information must be made available wherever travel decisions are made: at home, schools and malls, on the street, at a station or stop, and on-board a vehicle. Real time information permits informed customer decision-making and provides users with a greater sense of control. An internet based system will be one of the main foundations for improved access to information.

TransLink will implement significant improvements to access schedule information through the internet and will introduce real time information on the Richmond B-Line in 2000.

iv) Public Consultation

ACTION: Provide information to the public and seek public input broadly on major decisions, both in a variety of ways.

TransLink's decisions and programs have a significant impact on all members of the public – everyone uses the transportation system, the public pays the cost, and most people are impacted by how others use the system. The Greater Vancouver Transportation Authority Act mandates consultation with interest groups on a variety of TransLink decisions.

TransLink will undertake consultation in a variety of ways – through traditional public meetings, by internet information dissemination and input, by hotline input, by formal public surveys, stakeholder consultation and workshops, and "advertising" with informal surveys. TransLink will seek to provide full information and gain maximum input, and document public positions in any consultation process.

v) Marketing

ACTION: Develop a comprehensive marketing and information program with an emphasis on reducing single occupant vehicle use and increasing transit ridership and revenues.

ACTION: Develop a strategy to communicate to the public the full range of TransLink's mandate/responsibilities with regard to regional transportation.

The successful implementation of the plan will depend in part on how the expanded services are marketed and information is provided to the travelling public. New services should have a demonstrated market and provide the features necessary to attract new customers. All services will be reviewed to determine an appropriate level of marketing support, and all marketing programs will include specific ridership and customer awareness objectives and evaluation measures. Emphasis will be put on marketing specific branded services by sub-region, and on marketing alternative transportation services.

TransLink's public communications and advertising will identify the overall role of TransLink in preserving the livability of the region through its transportation programs, providing a context for the full range of TransLink services.

Public perception of TransLink's identity as a new regional transportation authority is most strongly associated with it transit function, due in large part to transit's high visibility and consistent media coverage portraying it as a "transit company." There is little public awareness of TransLink's full range of responsibilities including the building and maintaining of the Major Road Network, cycling initiatives, Transportation Demand Management programs and AirCare. The Strategic Plan opinion poll conducted in March 2000 indicated that while 83% of the region's residents are aware of TransLink, only 4% were aware of its role with major roads and bridges.

The region's residents must be aware of TransLink mandate, powers and responsibilities so that the public can be better informed about, and engaged in, transportation issues and decision-making.

vi) Specialized Transit Markets

ACTION: Identify the potential for 'premium fare products' that offer greater comfort and convenience to new markets of transit passengers.

In some markets, it is difficult for a standard transit service to compete with the convenience and comfort offered by the private automobile. However, there is some indication that some car drivers may be willing to pay a 'premium fare' for bus or ferry services that offer amenities such as guaranteed seating, laptop plug-ins, air conditioning and on-board services, for example. TransLink will investigate the potential for such services and, where viable, facilitate their implementation.

4.4.6 Management of the Major Road Network

ACTION: Give priority to transit, goods movement and high occupancy vehicles ahead of single occupant vehicles and develop a regional road use priority plan with municipalities by the end of 2001.

ACTION: Pursue municipal support for early implementation of expanded transit priority measures on the region's road system to provide attractive, faster, more reliable and safer transit services.

ACTION: Achieve co-ordination of network signal operation to facilitate regional movement needs.

The Major Road Network is the primary element of the regional transportation system. It provides the infrastructure for goods movement, buses, as well as the automobile, motorcycles and bicycles. Management of the Major Road Network will have a substantial impact on the effectiveness of the transportation system.

This management plan supports the allocation of road use priorities and/or capacity between buses, vanpools and carpools, commercial vehicles, automobiles and motorcycles to make best use of the transportation system. More broadly, there is merit in considering the concept of accommodating High Priority Vehicles such as trucks, taxis, or airport traffic, in specific lanes or facilities, separately or in conjunction with High Occupancy Vehicles.

TransLink will work with municipalities to achieve early implementation of transit priority projects. Currently, there are only 25 kilometres of bus and high occupancy vehicle lanes and 9 bus-activated traffic signals in place in the TransLink service area. In this area, TransLink is well behind almost all other major cities. Today, most of the existing transit priority facilities are on Provincial highways, with relatively few measures on municipal roads where most of the buses operate. To increase the attractiveness of bus services and reduce operating costs and ensure full utilization of additional transit services, substantial expansion of transit priority measures is required on roads throughout the Greater Vancouver region. The introduction of transit priorities can involve significant local tradeoffs and will require the full involvement and co-operation of municipalities.

More broadly, TransLink will pursue, with municipalities, a comprehensive regional road use priority plan with a target completion date of late 2001 to identify the infrastructure requirements and policies needed to support giving road use priority to selected users. The plan will identify operational policies (vehicle occupancy, vehicle type, time of day, charges if any, etc), project types and locations, and implementation timing. The analysis will take into consideration factors such as actual road space utilization, emissions, safety, and user charges.

The Major Road Network provides an opportunity to achieve system-wide improvements in traffic operation. Traffic signal co-ordination on the regional network is an important first step that is both cost-effective and could be implemented relatively easily. Major user benefits include reduced travel delay, vehicular emissions, fuel consumption, and mechanical wear. Signal co-ordination could increase intersection capacity without expensive physical expansions.

TransLink will work with the municipalities to develop a plan to integrate differing municipal signal systems regionally for inter-municipal co-ordination and standardization. Phased implementation of plan components will occur starting after 2001, possibly in conjunction with other potential Intelligent Transportation Systems applications within an overall regional Intelligent Transportation Systems framework.

4.4.7 Technology Applications

ACTION: Plan and implement Intelligent Transportation Systems where there is a demonstrated increase in efficiency, safety, productivity, cost-effectiveness, support for goods movement, accessibility to timely information, or support for alternative modes of transportation; or where Intelligent Transportation Systems provide significant decreases in delays, emissions, and energy use.

Intelligent Transportation Systems apply the latest technologies and techniques to increase the efficiency and effectiveness of the current transportation system. It consists of a broad range of diverse technologies that enhance transportation system management and control, provide priority for selected users, manage highway incidents to minimize delay and reduce accidents, support data collection and monitoring operations, and disseminate information on the operations of the transportation infrastructure to users.

Physically, Intelligent Transportation Systems range from internet-linked information kiosks and electronic toll collection systems, to real-time transit vehicle management and ultimately, fully automated automobiles travelling on, and interacting with, "smart" roads.

The range of applications is wide. Some aspects of Intelligent Transportation Systems will be applied within a single organization, such as Automatic Passenger Counters and Automatic Vehicle Location in transit. Other applications may be system-wide, and in many cases, common technology can support a range of applications across organizations. There is merit in taking a broad view. TransLink has established an Intelligent Transportation Systems subsidiary to provide a vehicle for cooperative investigation of the benefits of Intelligent Transportation Systems. The participating agencies have agreed to shared funding to develop of an Intelligent Transportation Systems vision and strategy for the region. When the vision and strategy are completed, implementation proposals for components of the system will be brought forward. The vision and strategy should work towards a larger integrated system, where appropriate.

4.4.8 Air Quality

ACTION: Establish a mechanism to evaluate the impacts of specific TransLink transportation decisions on air quality, linking these to Greater Vancouver Regional District-adopted air quality principles.

ACTION: Complete the approved capital expenditure program to upgrade the AirCare stations and test equipment and deliver an enhanced, self-funded, vehicle inspection program that identifies vehicles emitting excessive pollutants and requires effective repairs prior to re-licensing.

ACTION: Continue testing and evaluation of bus technology, and consider emissions and potential future regulation on fine particulates as criteria in the selection of engine technologies for the transit system.

ACTION: Work with Greater Vancouver Regional District Air Quality staff to support transportation-related air quality programs.

The maintenance of the current air quality of the region requires that continuing attention be paid to ensuring that the vehicles operating in the region are doing so as efficiently as possible, as well as to programs for reducing vehicle trips and kilometres traveled. During the term of the Plan and for some time beyond, the AirCare technology and program will ensure that vehicle emission control systems are operating correctly. In the longer term, as modern vehicle technologies advance and older vehicles leave the road, the emissions prevention potential of AirCare may be reduced.

The Plan proposes that TransLink follow up on previous Greater Vancouver Regional District recommendations regarding criteria for light trucks and sport utility vehicles in relation to the AirCare II program. It also proposes ensuring a high level of coordination between AirCare and the AirCare On Road Program (ACORP).

While transit vehicles contribute a relatively low proportion of the total emissions in the region, the transit fleet is large. Reduced emissions would be desirable, and TransLink can provide leadership in this area. Evolving technologies such as fuel cells and hybrid engines may offer future benefits. Existing technologies with lower emissions have to date involved tradeoffs in passenger capacity, operating cost, and reliability that, with the exception of the trolley fleet replacement, has made diesel the preferred technology. However, increasing concern about the impact of particulate emission and the development of new regulations in the United States make it necessary that TransLink remain fully involved in the evaluation of new technologies and consider emissions as a criterion in all purchases.

The Greater Vancouver Regional District Air Quality Program includes consideration of vehicle fuels and engine technologies. TransLink will work with program staff to support these efforts.

4.4.9 Goods Movement

ACTION: Facilitate goods movement on the regional transportation system through selective implementation of road improvements that will benefit goods movement, road priority measures, and implementation of technology.

ACTION: Provide a co-ordinating role in the development of supportive policies and infrastructure for goods movement.

ACTION: Work towards the definition of a 'Major Commercial Network' that identifies a network of routes for the efficient distribution of goods in the region.

Commercial vehicle movements, especially in comparison with passenger vehicles on the road network, can be supported in a tangible way on the roadway network. The reduction of congestion delays to goods movement will yield a number of economic, environmental, social and safety benefits.

Little work has been done since the adoption of Transport 2021 in 1993 to explicitly address the needs of goods movement. In 1999, as part of the preparation of this Plan, TransLink has been developing a dialogue with the goods movement industry. TransLink will begin to develop specific plans and policies to support goods movement more fully, starting in 2000. The following principles should be considered in the development of an overall approach to goods movement:

1. Maximize use of existing infrastructure through assignment or road priorities, implementation of new technologies, or other enhancements.
2. Invest in new infrastructure with benefits to commercial movements, not primarily increased capacity for single occupancy vehicles.
3. Require commercial users to pay for their proportionate use of new infrastructure where the net results are cost neutral.
4. Preserve goods movement corridors from encroaching and incompatible developments.
5. Explore increased use of rail and waterways for goods movement and enhanced intermodal integration between all goods movement modes.

A regional trucking survey identifying major origins and destinations and travel patterns for trucks is currently being conducted. This information will be used to identify issues and needs for the efficient distribution of goods by truck in the region and will form the basis of policy development for trucking in the region. This information will also help to identify priority projects and management actions necessary to facilitate goods movement by truck.

4.4.10 Corporate Management

i) Financial Policy

ACTION: Develop prudent financial policies to ensure TransLink's long term financial health.

At this juncture, very few financial policies exist to guide the preparation of a financial plan. The legislation stipulates that TransLink cannot budget for a deficit and that a debt limit is to be established and is required to be approved by the GVRD board.

The Strategic Transportation Plan recommends that TransLink establish financial policies. TransLink will over the next year develop a full set of financial policies relating to development, investment and use of reserves, liability management, including debt amortization and non-debt capital funding, debt ratios, and operating cost recoveries.

While formally approved policies are not yet in place, there are certain strategies that are prudent to apply and are consistent with local government practices:

- Retaining a reserve balance that recognizes the uncertainty of revenue sources and other unexpected events.
- Maintaining fare revenues at a minimum fifty percent of operating costs. This is the level recommended by industry and credit rating agencies.
- Creating or maintaining debt capacity and reducing overall costs by amortizing debt over a period which is less than the useful life of the asset being financed.
- Applying revenue sources which are appropriate to the program, and ideally from a financial perspective, are stable, predictable, easily understood and simple to administer.

A particular requirement of this plan is to recognize the significant SkyTrain investment of $650 million in 2006.

These strategies and issues have been recognized in the preparation of the model information and derivation of proposed revenue strategies.

ii) Pursue Operating Efficiencies

ACTION: Pursue operating efficiencies through investigation of alternative services and service delivery mechanisms and the achievement of internal efficiencies.

ACTION: Develop terms of reference for consultant services to review the organization and operations of TransLink and its subsidiary organizations for consideration by the Board.

TransLink and its subsidiaries expend significant public dollars. These dollars must be spent cost-effectively. While operating efficiencies alone cannot fund the sizeable expenditures required to expand the transportation system, they can contribute to it and must be pursued.

Through its Area Plans and business plans, TransLink will investigate alternative services and service delivery mechanisms and the achievement of internal efficiencies. Consultant services to review TransLink and subsidiary organizations and the application of industry "best practices" will be considered in 2000, and a program reported to the Board.

iii) Integrated Work Plans and Monitoring

ACTION: Develop a comprehensive management program that recognizes the interdependence of the actions proposed in this Plan and monitor progress on the Plan and objectives through an annual progress report to the Board.

ACTION: Implement comprehensive monitoring and evaluation of the regional transportation system to ensure that it supports broader regional objectives and optimizes future transportation investments.

ACTION: Conduct and maintain ongoing route-level performance monitoring and evaluation to ensure the effective and efficient use of transit resources, including trial use of automatic passenger counting technology.

As the Plan demonstrates, the transportation system is complex. Policy directions may be mutually supportive or conflict. Transportation pricing can support a desired transportation outcome while raising required revenue. Bus technology choices (e.g., diesel vs. alternative fuel buses) may be made primarily on the basis of cost-effective operation, rather than air quality goals. Technology applications in one area may have application elsewhere, and a failure to take a comprehensive view may create future problems.

The various elements of the Plan must work together. If the management program and transportation demand management are not successful, planned transit investments may not be economic. If transit and road improvements cannot meet their objectives, then plans will have to be revisited. Factors such as population growth, economic growth, fuel prices and the impact of e-commerce and technology, for example, can positively or negatively impact the implementation of the Plan. TransLink must monitor progress, and be prepared to alter its programs, or even to change direction. That means developing integrated work plans that recognize these interconnections. It means regular monitoring to check our assumptions about how the system works as a whole, and to provide early warning of any issues. It will then be possible to take corrective action.

The success of the plan is dependent upon the municipalities and the Province as well the actions of TransLink and its subsidiaries. TransLink will seek the cooperation of these agencies in the monitoring program. Monitoring will be accomplished through an annual report, informed by an extensive data collection program, to the Board and public as a context for TransLink's service planning and budget development.

Information is a primary tool for planning and managing the regional transportation system. The approach in this plan is to set specific targets that can be measured and monitored. Without information, progress against targets cannot be measured.

Currently, the monitoring of the transportation system is done either through ad-hoc surveys or data collection programs that do not adequately address planning, evaluation and management needs. No formal integration of the data collection activities exist to ensure consistency in regards to time period, design, and acquisition methodologies. A concerted effort can provide synergistic benefits of timely, reliable, and adequate data collection for effective planning, evaluation and management and reduce the costs of data collection.

The expansion in transit services will require improved route-level performance monitoring to ensure that resources are allocated optimally.

Currently, TransLink's route performance monitoring capabilities are insufficient to meet the needs for planning and evaluating services. Today, transit information is only gathered on 0.6% of service provided and is of limited volume and statistical validity.

As part of its deployment of technology, TransLink will build on the results of its recent Automatic Passenger Counter demonstration project and will move towards implementation of an Automatic Passenger Counter system in 2000, with an estimated 10-15% of the bus fleet equipped with counter units by 2001.

These systems use infrared or optical beams to count passengers as they board and alight. The data collected is linked to stops and travel time, and provides detailed information on route performance. The Automatic Passenger Counter system will be designed to integrate with other system monitoring technologies such as the forthcoming electronic fareboxes and the potential implementation of an automatic vehicle location system.

Starting in 2000, TransLink will design a comprehensive monitoring and data collection program for all aspects of the transportation network, and seek partnerships with other agencies to create a regional transportation information plan. Data collection and ongoing analysis to measure performance will be implemented. Resources will be provided to ensure that this essential monitoring and analysis is done in a timely and effective manner.

4.4.11 Federal Participation in Transportation

ACTION: Work with the Greater Vancouver Regional District, municipalities, the Province of BC and other government and non-government agencies to seek a direct federal role in the funding of urban transportation in metropolitan areas.

Increasingly, metropolitan regions are becoming more significant generators of economic activity. Collectively, they comprise a substantial component of many industrialized countries' economies. Most national governments explicitly recognize that the degree to which people, goods and services can move efficiently within metropolitan areas is vital to the national economy and preservation of the environment. Providing directed funding to urban areas to facilitate this is in the national interest.

For example, in the United States, the Intermodal Surface Transportation Efficiency Act (ISTEA) that was implemented in the early 1990s directed funding to metropolitan areas in a coordinated multi-modal manner. This was followed by the TEA21 legislation (Transportation Efficiency Act for the 21st Century) that built on the successes of ISTEA.

The situation in the United States contrasts starkly with that in Canada where the Federal government provides little or no funding. This places the region and Canada at a disadvantage because, ultimately, if we are unable to move people, goods and services as effectively as can be done in Puget Sound, Greater Portland or the Bay Area of San Francisco, our economy will suffer.

In addition, during the Strategic Transportation Plan consultation process, the need for the federal government to take some responsibility in this area was a common theme. In particular, there was significant concern regarding the use of the estimated $300 million per year in fuel taxes collected by the federal government in the GVRD.

It is proposed that while continuing to lobby for directed federal funding of through the Federation of Canadian Municipalities, TransLink also seek to establish a broad coalition of regional stakeholders in support of a specific program of transportation projects in this region.

4.5 Financial Plan

ACTION: Identify suitable revenue sources consistent with the Transportation Pricing and Revenue Generation and strategy to fund the Plan, in a manner that complies with the Corporate Policy – Financial Management strategy.

At the time that it sought the establishment of the GVTA, the GVRD placed financial considerations as one of its prime objectives. Its specific goal was to establish funding sources that were stable, predictable and appropriate. The financial plan attempts to reflect these regional goals as well as recognizing the multi-modal nature of the transportation system, transparency and, as far as possible, a user-pay approach to financing.

These considerations recognize that there are synergies in benefits to all transportation system users when improvements to individual components of the system are made. For example, car drivers in a corridor may benefit from a improvement to the transit service in that corridor because of reduced congestion. In other instances, an improvement in one part of the region may benefit users who live in another area (e.g. the proposed B-Line buses from Downtown Vancouver to UBC and SFU will benefit North Shore residents who travel by transit and car).

The sum of these factors highlights the need for an integrated approach to funding the system that is neither mode or geographically based.

4.5.1 Transportation is Expensive

Transportation is expensive in social, financial, and environmental terms. In order to limit social and environmental costs, the proposals set out in this plan are costly in financial terms. Construction of rail transit, purchase of buses and expansion of the major road network requires significant capital expenditures. Transit services do not fully recover operating costs, and requires subsidy. Transportation costs are a significant part of regional expenditures, even with the revenues transferred from the Province and provincial support for rapid transit.

The program proposed in this plan represents a choice to pursue quality of life. It was known at the time that TransLink was established that the increased investment in transportation would need to be funded from the new sources available, including vehicle levies and increased parking fees.

4.5.2 Nature of the Financial Plan

The financial information included in this section is intended only to provide an overall picture of TransLink finances for the next five years, and demonstrate that the Plan can be financed. The figures presented in this section are not a budget. The Strategic Transportation Plan describes new programs that are not yet fully developed, for which the timing is uncertain, and for which only very preliminary estimates are available.

Many projects will depend on cost sharing with the Province or municipalities, and will not proceed without that support. Accordingly, the figures presented are broad estimates of expenditures and revenues, based on assumptions about the timing of transit and road expenditures and Board approval for fare increases and other revenues. Given the potential fluctuations of some revenues sources, e.g. fuel tax revenues which may changes with higher fuel prices, monitoring of both revenues and expenditures will be critically important. Some capital projects may not be implemented within the time frame, and TransLink's annual monitoring program may suggest changes to later program years.

4.5.3 Plan Assumptions

TransLink uses a long-range financial model to develop estimates of the financial impact of proposed expansion scenarios and resulting additional funding requirements.

Table 1 presents the key assumptions that drive the Plan financial projections, including those regarding inflation, interest rates, productivity improvements and population growth. The figures for 1999 represent a 9-month fiscal year.

Table 1: Plan Assumptions

	Budget	*Projected*						
	1999	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2009**
Internal								
Transit Service Hours (millions)	3.48	4.71	4.93	5.24	5.63	5.88	6.21	6.76
Transit ridership (with no fare increases) (millions)	95.3	130.9	137.1	143.9	151.9	157.3	163.9	176.4
Transit Fleet								
Buses	1,125	1,175	1,293	1,396	1,488	1,588	1,640	1,783
SkyTrain Cars	150	170	210	210	217	223	247	257
WCE Trains	6	5	5	6	6	6	6	6
Custom Vans and Buses	251	243	252	261	275	286	296	351
Capital Expenditures								
Transit Related ($ million)		286.1	156.3	187.9	157.7	137.0	129.6	81.2
Road Related ($ million)		26.6	31.1	44.7	67.3	83.9	79.4	65.4
Other Capital ($ million)		13.4	4.5	5.0	5.6	7.1	7.1	7.3
External								
Inflation		0.9%	1.1%	1.3%	1.5%	1.5%	1.5%	1.5%
Long-Term Borrowing Interest Rates		6.5% →						
Productivity Targets		-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	0.0%	0.0%
Population Growth		2.5%	2.5%	1.8%	1.8%	1.8%	1.8%	1.6%

The financial figures presented are planning projections, not budgets. They are based on estimated costs when the plan was prepared (1999). Both the long range model and a three year budget projection will be updated in TransLink's annual reports throughout the Plan period.

4.5.4 Financial Outlook

Table 2 below provides a revenue and expenditure summary for the plan period to 2005 assuming volume-based growth in existing revenue sources only. The Appendix document provides a more detailed summary of revenues and expenditures. The figures for 2009 are shown on the following tables for context purposes only.

Table 2: Financial Outlook (No Revenue Increases) ($ Millions)

	Budget	Annualized	Projected						
Revenues	1999	1999	2000	2001	2002	2003	2004	2005	2009
Operating	147.2	203.6	214.2	221.1	230.1	241.0	248.6	257.8	249.0
Taxation	235.4	284.5	289.2	312.8	324.3	339.1	348.6	364.1	394.5
Total Revenues	382.6	488.1	503.4	533.9	554.4	580.1	597.2	621.9	643.5
Costs									
Operating Costs	312.8	430.4	453.2	483.9	519.4	551.6	576.6	611.7	671.2
Debt Servicing Costs	60.2	76.3	91.2	114.9	141.6	163.7	181.4	202.7	335.8
Total Costs	373.0	506.7	544.4	598.8	661.0	715.3	758.0	814.4	1007.0
Surplus/(Deficit)	9.6	(18.6)	(40.9)	(64.8)	(106.6)	(135.2)	(160.8)	(192.5)	(363.4)

As outlined above, expenditures increase from $373 million in 1999 (9 month fiscal year) to $814 million in 2005. Without any new revenue measures the 2005 annual deficit is $192.5 million.

The 2005 deficit in the Plan compares to a projected deficit of $106 million in the mid-point scenario. However the mid-point projection assumed a 5% fare increase in 2000 and fare increases at inflation from 2002 onward. If this is removed, the mid-point 2005 annual deficit is approximately $133 million. The major reasons for the difference in the projections are increased transit service levels and $330 million in roads and bridges capital (not anticipated in the mid-point scenario).

4.5.5 Revenue

i) Existing Revenue Sources

TransLink's existing revenue sources are derived from:

- transit fares;
- residential and commercial property taxes;
- parking sales taxes;
- AirCare test fees;
- levies on BC Hydro residential electricity accounts; and
- gasoline taxes.

There is little potential to adjust most of these revenue sources:

- The AirCare fees are limited in legislation to the amount needed to recover the emission testing program and administration costs.
- The power levy is limited to the current $1.90 charge per month per account.
- The gasoline taxes are limited to the amounts specified in legislation.
- The parking tax is a transfer of the Provincial 7% sales tax and is fixed.

Within existing revenue sources, property taxes and transit fares can be increased to fund TransLink programs. Property tax is unrelated to transportation use, and would not meet TransLink objectives for transportation pricing. Regional direction is that "transportation should pay for transportation", and TransLink's

Board has stated that property tax should not be used to fund transportation expenditures beyond present levels.

ii) Potential New Fees and Charges

In addition to a possible increase in transit fares, TransLink has the power to introduce the following:

- cost recovery tolls on improvements to parts of the Major Road Network
- charges on any owner or operator of a motor vehicle in the region, (charges can be variable or different by specified class) as of October, 2001
- a tax on non-residential parking lots by area and/or number of spaces
- an additional local ad valorem tax of up to 21% of parking fees (as of October 2001 if the full agreement with the Province on rapid transit cost sharing is implemented in legislation)
- taxes on properties within specified zones that benefit from nearby transportation stations or facilities that TransLink constructs or funds.

Of these potential revenue sources, only vehicle charges can be easily implemented in the short-term. Tolls and taxes on specific properties that benefit from projects may be useful for specific projects and will be considered, but may not be relevant within the Plan period given the time frame for major new initiatives. A charge on non-residential parking stalls/parking area where parking is provided free appears to be difficult to implement due to the structure of the legislation.

The parking ad valorem tax, if implemented, would have a significantly different impact across the region and would require careful introduction, but may have some early potential. Further work on parking charges is planned, which may lead to proposals for legislative amendments that will make a combination of an ad valorem charge and a per stall charge more feasible as a region-wide tool.

iii) Revenue Strategy

As indicated above, the potential revenue sources available to fund the increased expenditures in transportation are:

- Vehicle Charges
- Parking Taxes
- Transit fares
- Tolling and benefiting property charges for any major capital projects which are suitable and are developed with the Plan time frame.

A revenue strategy should target both car and transit users. All of the above revenue sources are appropriate to fund the aspects of the program proposed.

A vehicle levy, in particular a distance-based charge, would begin to address the congestion and other problems caused by failing to signal vehicle operators the full costs of their use of the transportation system. An increase in parking tax would complement the motor vehicle charge by targeting commuter traffic and travel to high volume, congested locations. Both motor vehicle charges and parking taxes will be more readily justified with the existence of more attractive transit alternative proposed in the plan.

A transit fare increase is appropriate. The last overall transit fare increase took place in 1993, and adjustments to the fare structure were made in 1997. Even with these adjustments, transit fares in the region are comparable to or below those in other major cities.

Substantial improvements in transit have and are being provided in this Plan. The Vancouver Regional Transit Commission, previously responsible for transit operations in the region, had concluded that a fare increase would be required in 2000, and it is fair to say that a fare increase is required to recognize transit improvements that are already committed and underway. A fare increase today relates as much or more to recovering cost increases for expanded service, which has already been implemented, rather than funding future service increases.

iv) Revenue Proposal

In order to meet the revenue requirements for the proposed program in the plan, the following additional revenue measures are proposed:

- Transit fares – increasing transit fares by the equivalent of 25 cents on a single zone fare (currently $1.50) in June 2000 and again in January 2003. Similar increases would be made to other fares.
- Vehicles charges - introducing a charge on motor vehicles averaging $75 per car, with the structure of the charge to be determine after public consultation, effective October 2001, increasing at 5% per year after 2002.
- Parking taxes – applying an additional local parking ad valorem tax of 14% effective Jan, 2005 and if possible applying a parking charge to non-residential parking provided at no cost
- Pursue tolling and benefiting property charges for any major project which is suitable and is developed within the plan timeframe

Table 3 illustrates the financial impact of the new revenues. The Appendix document provides a more detailed summary of Plan revenues and expenditures.

Table 3: Financial Outlook (Recommended Revenue Strategy) ($ Millions)

		Budget	*Annualized*	*Projected*						
Revenues		**1999**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2009**
	Operating	147.2	203.6	227.0	245.0	254.6	290.6	300.8	312.0	356.8
	Taxation	235.4	284.5	291.3	338.4	421.9	443.4	459.9	504.6	571.3
	Total Revenues	382.6	488.1	518.3	583.4	676.5	733.9	760.7	816.6	928.1
Costs										
	Operating Costs	312.8	430.4	453.2	483.9	519.4	551.6	576.6	611.7	671.2
	Debt Servicing Costs	60.2	76.3	91.2	114.9	141.6	163.7	181.4	202.7	335.8
	Total Costs	373.0	506.7	544.4	598.8	661.0	715.3	758.0	814.4	1007.0
	Surplus/(Deficit)	9.6	(18.6)	(26.1)	(15.4)	15.5	18.6	2.6	2.2	(78.9)
	Reserve Balance	44.2	44.2	18.1	2.7	18.2	36.8	39.5	41.7	(215)

As outlined in the summary, the new revenue measures will fund the new service requirements and leave a reserve balance of $42 million in 2005.

The proposed set of revenue measures will charge both car and transit users. A vehicle levy introduces transportation pricing, in that it recognizes the impact that the vehicle has on road requirements and the environment. The fee will be structured to capture as much TDM effect as possible. The charge will be lower for those who drive less and higher for those who drive more.

By 2005, it should be possible to apply a parking charge in a balanced way across the region. The proposed tax is sufficiently small to have only a modest differential impact, given the significant increases in parking costs that have been applied in the commercial market over the last several years.

> *The Plan, while aggressive, is financially viable. Appropriate revenue sources exist to fund the transit expansion and maintain and selectively expand the major road network. The need to use these revenue sources was identified in the work leading to the establishment of TransLink, and the public has identified the importance of investment in the transportation system.*

5 - Support for Regional Objectives

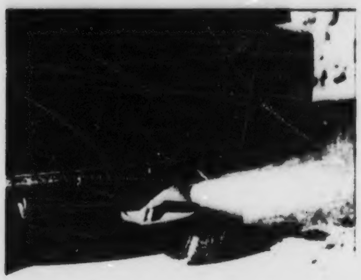
5.1 Regional Growth Management Strategy

The Strategic Transportation Plan goals, objectives and actions explicitly support the Livable Region Strategic Plan. The planned extension of SkyTrain is consistent with the regional plan. The substantial expansion of the transit system, including the emphasis on connecting town centres supports the plan. Careful expansion of the Major Road Network is consistent with regional plan. Together, the planned expansion of rail transit and the bus system support the growth pattern proposed in the regional plan. The Financial Plan application of vehicle and parking charges begins the implementation of transportation pricing. Most importantly, the management strategy, with its emphasis on implementing transportation demand management, supports the regional plan.

The Strategic Transportation Plan has been developed from the Livable Region Strategic Plan. For the Strategic Transportation Plan to be successful, the Greater Vancouver Regional District and its 21 member municipalities must create land use patterns that promote more choice in transportation, including greater use of transit, walking, and cycling.

TransLink's planned development of a long range Strategic Transportation Plan in concert with the review and updating of the Livable Region Strategic Plan, commencing in the fall of 2000, will ensure that the two Strategic Plans are consistent and mutually supportive.

5.2 Air Quality



The Strategic Transportation Plan seeks to manage the transportation system to manage demand, limit the growth in single occupant vehicle travel, increase walking and cycling, and increase the provision of transit. Through the operation of the AirCare program, TransLink will ensure that emissions from private automobiles are minimized as much as possible.

One of the greatest threats to air quality in this region is the increase in private car use that would occur if this plan were not to achieve its objectives. Providing more attractive alternatives to single occupant vehicles (e.g. walking, cycling, transit, carpooling and telecommuting) is the most effective use of transportation resources. At present, over half the rides on transit are on zero emission vehicles (trolleybuses and SkyTrain). Making the transit system more attractive to choice users is a more effective air quality strategy than trying to eliminate emissions from buses.

In its review of the Air Quality Management Plan, the GVRD has identified greenhouse gas emissions as a concern. Canada's commitment to the Kyoto Protocol to reduce greenhouse gas emissions has set challenging objectives. The management of transportation demand, the AirCare program, and the efficient operation of the transportation all support the reduction of greenhouse gases.

5.3 Economy

The Strategic Transportation Plan seeks to make the best use of available resources to better serve the regional economy. Providing alternatives to the private car will reduce pressure on the road system at peak periods, facilitating the movement of goods. Moreover, the Plan explicitly looks to improvements to access to the ports and airport, and improvements to the road system that will serve goods movement. The Major Road Network Priority Program will give a higher priority to goods movement in future. Application of Intelligent Transportation Systems, as proposed in the Plan, has the potential to facilitate improved goods movement. A more efficient, effective transportation system can better serve the needs of the regional economy. The Greater Vancouver Regional District will be developing economic objectives in the next revision to the Livable Region Strategic Plan. TransLink will work with the Greater Vancouver Regional District and stakeholders to develop transportation related economic indicators which will permit monitoring of future plans and progress in this area.

6 - Conclusions

Maintaining quality of life in the region in the face of growth and changing development patterns presents a significant challenge. The Strategic Transportation Plan proposes an ambitious and broad program to address that challenge:

- A focus on management of the system, including transportation demand management, developing a system of priorities for the regional road system, programs to support bicycling and walking, and implementation of "best practices" technology.
- A commitment to work in partnership with other agencies.
- A program to collect the data necessary for effective and efficient management of the system.
- Expansion of SkyTrain to complete the lines from New Westminster to Coquitlam and Lougheed Mall to Central Broadway.
- Expansion of bus services and introduction of new types of services to provide service to suburban areas and between town centres.
- Selective improvements to the road system and the creation of necessary infrastructure to support the transit operation.
- Increases in fares, the introduction of a vehicle charge in 2001 and a parking charge in 2005 to finance the Strategic Transportation Plan, and a direction to move toward selective pricing of transportation services to improve system operation, while maintaining emphasis on the efficiency of the system and cost reduction.
- An annual review of progress in Plan implementation, with a recognition of the need to adjust the Plan as circumstances change to ensure its effectiveness and affordability.

As the region grows, the transportation system will have to change, and collectively, by action or inaction, we will create our future. The Plan makes a conscious choice to invest in transportation services that will support quality of life and the Livable Region Strategic Plan. Automobile drivers and transit riders will pay these costs in user charges. Public recognition of this choice and support for these initiatives will be needed for them to succeed.

Strategic Transportation Plan:

Appendices

April 2000

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APPENDIX 1 – Livable Region Strategic Plan: Transportation Choice Policies

The Livable Region Strategic Plan is based on the 1993 Transport 2021 Long-Range and Medium-Range Plans. The following is reproduced from the Livable Region Strategic Plan and presents the transportation choice policies which are also supported by this plan:

"In order to increase transportation choice, and to implement the GVRD Board's decisions on June 2, 1994, to approve the Transport 2021 Long-Range and Medium-Range Plans, the Board will:

- enter into partnerships with GVRD member municipalities, other Lower Mainland regional districts, the provincial government and its agencies and the federal government and its agencies to plan and deliver a transportation system that supports the protection of the Green Zone, the development of complete communities and the realization of a compact metropolitan region.
- pursue Transportation Demand Management (TDM) strategies as a fundamental transportation requirement for achieving the goals and objectives of this Strategic Plan,
- enter into partnerships with GVRD member municipalities, local, provincial and federal governments and private organizations for the establishment of a regional capability to develop, co-ordinate, implement and monitor TDM strategies,
- seek through partnerships on increasing transportation choice:
  - to plan and implement a transit-oriented and automobile-restrained transportation system for the region based on intermediate capacity transit facilities (including light rail transit, SkyTrain and high capacity busways) within the identified corridors;
  - to provide a variety of local transit services and networks with the flexibility to serve different demands in support of the complete communities and the compact metropolitan region;
  - to assign priority for increased roadway capacities first to high occupancy vehicles, goods movements, inter- regional movements and then single occupant automobiles;
  - to enhance and/or retrofit local streets and infrastructure to favour transit, bicycle and pedestrian uses;
  - to maintain appropriate levels of service for inter-regional and truck movements through the Lower Mainland by pursuing transportation system management strategies and measures including access restriction and future corridor and right-of-way protection; and
  - to plan and implement transportation services and facilities with priority given to areas identified for above-trend population and employment growth.
- enter into partnerships with GVRD member municipalities, the provincial government and its agencies, and other organizations to monitor the implementation of transportation policies and strategies by conducting periodic reviews involving research, planning and data collection."

APPENDIX 2 – TRANSPORT 2021 POLICIES

These policies were prepared in 1993 and adopted by the GVRD in 1994 with the exception of the policies on rapid transit phasing. The policies were written before TransLink was established and, as a result, do not necessarily reflect the current institutional arrangements.

1. Land Use Policies

1.1 The GVRD should pursue the completion of its Livable Region Strategy as a reference point for all public and private sector agencies which have an influence over urban development.

1.2 The Strategy should allocate growth and concentrate development in multi-use activity centres and high-density development corridors.

1.3 The Strategy should define areas of higher density that will be targeted for intensive transit service by the transport plan.

1.4 The Strategy should identify towns outside the urban area which are (a) intended to become more complete and self-sufficient and therefore (b) through transportation and other policies, to be discouraged from becoming suburban "bedroom communities" with easy commuting into the metropolitan core.

Local friendliness to walking, cycling and transit

1.5 Near and within all activity centres, the Strategy should propose a range of housing, within a pedestrian- and bicycle- friendly urban design, both by construction of new centres and by redevelopment of existing ones.

1.6 Municipalities should provide a transit-friendly local street pattern allowing transit routes to pass within walking range of a large proportion of dwellings, job sites, schools, shops and other activity centres.

1.7 Municipalities should develop bylaws and guidelines to help attain long range transport goals at both regional and local levels, including retrofitting neighbourhoods which currently have street patterns which are difficult to serve by transit.

Coordination of Official Community Plan

1.8 Governments should provide a framework whereby municipal land use plans are effectively coordinated in a sustained fashion over several decades, using the GVRD's Livable Region Strategy as reference point; neighbouring regions and their member municipalities should be included in this process.

2. Demand Management Policies

2.1 Governments should regard Transportation Demand Management (TDM) strategies as an integral part of transport planning in the B.C. Lower Mainland.

2.2 Governments should use TDM as the primary public policy instrument to restrain growth in travel by the single occupant automobile.

2.3 Governments should wherever possible exempt urban goods movement, which has no practical choice other than truck, from the policy of auto restraint.

2.4 Neighbouring local governments which feed traffic into Greater Vancouver should be asked to respect and support the TDM policy by encouraging transit and carpool traffic, and discouraging single occupant commuter traffic into/out of Greater Vancouver.

2.5 Governments should generally use "carrot" measures (persuasion and incentives) to achieve objectives before using "sticks" (penalties and disincentives); however, since "carrot" measures alone are not likely to effect significant change, "stick" measures will be required.

Telecommuting

2.6 Governments should encourage businesses to adopt telecommuting by devising a framework of fiscal incentives, justified on the basis of saved or postponed infrastructure investments that would otherwise be required.

Employer trip reduction

2.7 A regional agency, to be identified, should foster employer trip reduction programs, which look to medium and/or large scale employers to take action to reduce the number of commuter vehicles serving their worksites. The agency should provide support by information and public awareness campaigns, a regional ride-share match-up programme, and other advisory services which encourage employers to participate.

2.8 Governments should leave voluntary the employers' participation in trip reduction programs, i.e. not require it by law, to avoid regulatory imposition on employers and associated public sector administrative costs (with the exception of policy 2.16, below).

HOV Bus priorities

2.9 Governments should recognize provision of HOV lanes and bus priority measures as necessary and mutually reinforcing with TDM, to provide more time-competitive alternatives over the single-occupant vehicle.

Road pricing, tolling and gas tax

2.10 The Province should introduce road pricing measures or tolls structured to reduce congestion, provide clearer price signals to users for the costs they incur and impose on others, and to raise revenue for transportation improvements.

2.11 The Province should apply road pricing/tolls with the long run purpose of shaping travel demand in addition to obtaining revenues. The Province should not remove tolls unless it is clear that the external costs of the automobile have otherwise been accounted for and are recognized by the user.

2.12 The Province should dedicate toll revenues to system-wide transportation improvements, including transit/HOV improvements, retrofitting infrastructure to withstand earthquakes, rehabilitation of deteriorating facilities and construction of new facilities.

2.13 Governments should institute methods of converting fixed costs of auto ownership/operation to variable costs, where practical (e.g. pay-as-you-drive insurance).

2.14 The Province should increase gas prices, though these are a "blunt" instrument with more merit as a revenue-generating measure than as a demand management measure.

Parking management

2.15 Governments should use parking management as a TDM instrument. The provision of parking should be coordinated throughout the urban area, e.g. through a regional focal point recommended under "coordination" below. A comprehensive parking strategy is required covering short and long term, park and ride, public and private, supply and price considerations.

2.16 Governments should phase out subsidized parking for commuters e.g. by means of municipal bylaws requiring employers who wish to provide free or subsidized parking to employees also to offer those employees the option of the equivalent value in cash and/or travel subsidy.

Coordination

2.17 Governments should identify a regional focal point for coordinating TDM. This focal point, which could be a coordinating committee of principal agencies, should function with a mandate to monitor impacts, detect conflicts and coordinate TDM in the region among the agencies responsible for implementing the measures.

3. Service Level Policies

Single-occupant vehicles

3.1 Until road pricing or an extensive tolling system is instituted, governments may have to accept worse congestion for single-occupant vehicles in the peak period as a necessary evil to encourage other travel options, notably transit and carpooling.

Trucks

3.2 Governments should permit truck traffic to escape the auto congestion/auto restraint policy wherever feasible by separating truck flows from auto flows, consistent with cost effectiveness

3.3 Governments should develop minimum service level standards for major truck links to trigger action for improvement if service drops below the accepted level.

Long-haul and inter-regional traffic

3.4 Governments should maintain a high level of service for traffic moving between the Lower Mainland, the U.S. and other parts of B.C. This will require a lower level of service for long-haul commuters by car into the urban area by restricting their access to interregional facilities.

4. Transportation Supply Policies

Transit

4.1 Transit providers should add high quality, fast frequent services linking facilities linking regional town centres.

4.2 Transit providers should offer a family of local transit services, including para-transit and flexible-route transit services, to serve demand for different time periods and different markets.

4.3 Transit providers should place priority on improving local transit services in designated urbanized and denser-developed areas within the compact metropolitan area.

High-occupancy vehicle (HOV) and bus priorities

4.4 To make best use of existing investment, the governments should re-allocate existing roadway capacity to maximize people-carrying capacity, not vehicle-carrying capacity, and take into account the expected number of passengers per vehicle rather than the number of seats.

4.5 In particular, where congestion is not serious and where operationally feasible, the governments should provide HOV capacity by removing mixed traffic or parking lanes from the existing system; where this is not operationally feasible, it will be necessary to construct new HOV facilities.

4.6 The Province and municipalities should install bus/HOV priority measures, wherever an advantage for transit can be demonstrated, and accept that a time penalty to other road users may occur.

4.7 On regional roads intended for inter-regional and regional traffic as opposed to local traffic, the Province should provide new capacity preferably by new HOV facilities, recognizing some mixed traffic capacity expansion may be necessary.

4.8 The Province and municipalities should consider opening HOV lanes to trucks and other mixed traffic in the off peak period, provided that the performance or safety of transit is not compromised.

Single-occupant vehicle restraint

4.9 Governments should follow a single-occupant vehicle restraint strategy, consistent with the regional objecti of reversing the past priorities among the transport modes, increasing the choice of modes available, complementing the TDM policy and allowing investment in transit to be maximized.

4.10 In particular, on regional facilities within the urban area, the Province and municipalities should not increase mixed traffic peak hour capacity, except for the limited increase resulting from displacement of HOVs into new exclusive HOV lanes.

Inter-regional road traffic and goods movement

4.11 The Province and municipalities in both the GVRD and neighbouring regions should do everything within their power to limit the use of interregional, long haul roads for commuting which may involve restriction at the point of access from valley towns onto the long-haul facilities.

4.12 Governments and transit providers should facilitate the transfer of passengers between long haul transport and regional transit services to promote the movement of passengers by non-auto modes (e.g. buses to airport, ferry terminals, bus priorities internally).

4.13 The Province should designate interregional roads which are to be protected from congestion by long-haul commuter traffic.

4.14 The Province should make the necessary legislative changes to permit transportation corridors to be reserved, especially for the purposes of inter-regional travel.

5. Policies for Keeping Options Open

5.1 All parties should regard the preservation of future potential corridors, even though such corridors are not recommended for functioning transport facilities under this long range plan, as a fully legitimate activity of responsible agencies in order to keep options open and deal with the uncertainties of the future.

5.2 The agencies responsible for transport facilities should continue with those activities required to define, assess and protect long range options in support of continuous planning.

5.3 The Province and local governments should establish a stable planning cycle covering all modes of transportation, passenger and goods movement, which fully recognizes the interaction between land use and transportation.

Appendix 3 – Review of Current Situation Relative to Key Objectives

Transportation Facts – Automobile Dependence

As the population of the region and economy has grown, more and more demand has been placed on the region's road and transit system, both for personal travel and goods movement. In 1999, the population of the GVRD reached 2 million and is forecast to reach 2.2 million by 2005. There are just over 1 million jobs in the region and this is projected to grow by 100,000 by 2005.

The total number of trips made in the GVRD on a typical day (1994 figures, 24 hours, all trips, all purposes) is approximately 5 million:

- 3.8 million trips are made by car (including car passengers); and
- 1.2 million trips are made by transit, walking, or cycling.

In 1999, the number of trips made each day is estimated to be 5.5 million.

For many trips, the convenience of the car is hard to beat. Moreover, for many people, it is unlike any other product we own – it portrays personality, lifestyle and cachet. It is likely that if a car is available, then this is the preferred mode for most people as long as it is perceived to be cheaper, faster and more convenient than the alternatives.

In 1998, there were 1,143,000 licensed vehicles in the GVRD. Overall, the rate of car ownership is 580 cars for every 1000 people, or about 1.5 cars per household. In the 1970s and 1980s, car ownership grew at a much faster rate than the population, with serious consequences on the rate of traffic growth. While car ownership rates have remained fairly constant through the 1990s, the number of cars on the road continues to grow. Between 1991 and 1998, the number of cars on the GVRD's roads grew by 14%, or 141,000 cars. Based on current trends, if 40,000 people are added to the region each year, then about 23,000 cars are likely to be added per year.

Rates of car ownership vary considerably throughout the region. In 1998 in the City of Vancouver, 22% of households did not own a car, while in Surrey and Delta, only 5% of households did not own a car. The number of households with 2 or more cars in Vancouver was 26%, while in Surrey and Delta it was double this percentage at 52%. Unfortunately, many residents are living in parts of our region that have developed in a way that is "structurally dependent" on the car and are very difficult to serve by transit. Surveys among transit riders show that not having a car is the most influential reason to take transit with about 40% of transit riders giving that reason for taking transit.

In recent years, there has been a modest shift away from car use and toward transit, walking and cycling. The proportion of persons driving has been reduced slightly from 61.7% in 1985, to 57.1% in 1994 of total trips. Car passenger trips have remained about the same at 19%. Transit use as a proportion of total trips has increased from 8.1% in 1985, to 10.2% in 1994. The walking and biking modes also increased from 10.8% in 1985, to 12.7% in 1994.

Appendix 4 provides a more detailed picture of major commuting patterns in the region.

If present trends continue, by 2005, the region's population will be making an additional 500,000 to 600,000 trips per day. If the transportation mode shares remain the same, about 76% of the trips will be made by car, 10% by public transit and 13% by walking/cycling.

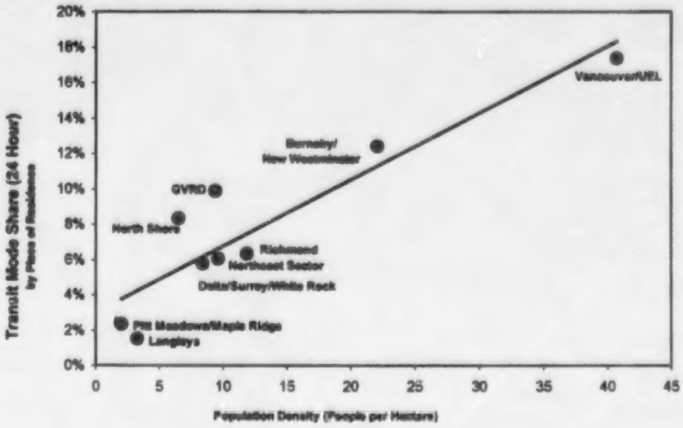
> *By 2006, Transport 2021 calls for 70% of trips to be made by car, 17% by public transit, and 13% of trips by walking or cycling.*

Land Use Patterns and Transportation Demand

Land use patterns have a strong influence on movement – on the frequency, mode, and length of trips. Two of the key issues influencing transportation demand are population and employment distribution and density. One of the key objectives of the Livable Region Strategic Plan is to help manage and reduce the demand for travel by arranging land use in a compact and convenient way. The plan focusses development within a Growth Concentration Area, consisting of Vancouver, Burnaby, New Westminster, Coquitlam, Port Coquitlam, Port Moody, and North Delta and North Surrey.

The Vancouver region, unlike many American metropolitan areas, has been relatively successful in providing housing close to major employment centres, particularly the downtown and regional town centres. Housing unit growth has been impressive in recent years. Approximately 11,000 units were added around downtown Vancouver and 15,000 around the other regional town centres from 1986 to 1996, (approximately 16% of all housing starts in the region). The 1996 work travel patterns of residents living near centres shows the importance of arranging land use conveniently. The population living within walking distance of the downtown or a regional town centre has a much higher propensity to walk or take transit compared to the population as a whole. For example, in the City of Vancouver's West End, 37% of all residents walk to work.

The relationship between residential density and increased use and efficiency of public transit is well documented and illustrated in the graph shown below. Population densities of 20-30 persons per hectare are generally required to support efficient conventional fixed-route bus services. In the City of Vancouver, residential densities are now similar to many European metropolitan regions at about 44 people per hectare. In other parts of the Growth Concentration Area, residential areas are developed at densities that have these transit supportive densities. However, many of the areas beyond the Growth Concentration Area do not achieve this density.



The 1996 journey to work data shows that 17.5% of all work trips are being made by transit for trips originating in the Growth Concentration Area. However, for the rest of the GVRD, only 8.0% of all work trips are being made by transit. Walking and biking are higher in the Growth Concentration Area, as well.

Distribution of Daily Transit Trips by Trip Origin, 1994

Trip origin	# of transit trips/day	% of total trips	% of population
North Shore	31,990	7 %	11 %
Vancouver/UEL	266,432	58 %	28 %
Burnaby New West	80,532	17 %	12 %
Northeast Sector	18,350	4 %	13 %
Richmond	28, 146	5 %	9 %
Delta/Surrey/WR	43, 000	9 %	29%
Total GVRD	468,450	100%	100%

Source: 1994 Trip Diary

Approximately 75% of all transit trips are made by residents of Vancouver, UEL, Burnaby, and New Westminster even though they make up only 40% of the population. While the Growth Concentration Area accounts for about 65% of the population, its residents account for around 80% of all transit trips in the region.

Most transit trips begin and end as pedestrian journeys. In fact, transit trips can be viewed as "intermissions" in a walking trip. As such, activity centres need to be developed in a compact way and streets need to be safe and interesting, with sidewalks and pedestrian amenities.

The more people are clustered in an area, the easier it is to provide a cost-effective transit system, and the more likely it is that modes of travel like bicycling and walking will be feasible and convenient. In the past few years, approximately 63-65% of all new population growth in the GVRD has been located in the Growth Concentration Area.

> *The target for the Livable Region Strategic Plan is for 70% of the population growth to be within the Growth Concentration Area.*

Employment Location – Where We Work

Jobs are showing some tendency to disperse rather than concentrate. As a consequence, work places are more difficult to serve by transit. In 1981, 28% of employment in the region was concentrated in the downtown but by 1996, this proportion had dropped to 21%. Alarmingly, there was only a slight increase in the proportion of jobs located in regional centres during this period. Overall, the concentration of jobs in downtown and the regional town centres was reduced from 44% to 37% between 1981 and 1996. This presents a major challenge for reducing car dependence. Transit can work best when it carries people from their homes to a limited number of destinations because this allows transit corridors to develop where there is significant travel demand and high quality, high frequency services can be provided. Transit cannot move people from many origins to many destinations in a cost-effective manner.

Other cities have the same problems of sprawl and declining transit use. In July 1999, the Toronto Transit Commission received a report from Commission staff which noted:

> *Overall trip making in the Greater Toronto Area grew by 23% between 1986 and 1996, and current forecasts of population and employment suggest that this growth will continue for the next 20 years. Most of the growth is occurring in low density suburban areas, which are auto-oriented, so transit's market share has fallen from 17% in 1986 to 14% in 1996... This low level of transit use is not the result of a lack of funding for transit service. Even with a doubling or tripling of funding for transit in these areas, transit will never carry more than 15% of all trips unless there are fundamental changes to the way the Greater Toronto Area is developed.*

The growth of office parks is a good example of the dispersal problem. This form of development is difficult to serve efficiently by transit and is largely car dependent, requiring workers to drive to work. The experience of the Toronto region and other areas is showing that high car trip generation rates associated with the proliferation of office parks can create severe car congestion problems. The perceived need to provide extensive free parking is also facilitating the dispersion of shopping and entertainment facilities to "stand-alone" locations.

The advantages of concentrating jobs in centres is demonstrated in the journey to work figures for 1996 (24 hour figures). For example, about 50% of work trips to the downtown are made by transit, walking or cycling. For jobs in Metrotown, the most well developed regional town centre with 16,000 jobs, 30% get to work by transit, walk or bike. For the GVRD as a whole, 23% of all jobs are reached by transit, walk or bike.

Part-time work, flex time, telecommuting, and work at home arrangements are all on the increase and these trends will all ease the rate of growth in peak travel demand. Part-time workers now make up about 18.5% of the labour force while about 8% of the labour force work at home.

> *One of the key strategies in the Livable Region Strategic Plan is development of town centres to provide employment, shopping, and recreation opportunities near where people live. To the extent that employment is dispersed, these opportunities are lost, and transportation problems are worsened.*

Goods Movement – Lifeline of Our Economy

The effectiveness of goods and commercial movement is a major determinant of the region's competitive position relative to other major centres, particularly on the West Coast of North America. If we are unable to move goods to, from and within the region as effectively as other cities, we will be at an economic disadvantage.

There are an estimated 20,000 trucks using the region's roads on a daily basis. Almost all municipalities within the region have a system of designated truck routes. All of the provincial highways that pass through the region are truck routes. Most of the component roads within the Major Road Network are also designated as truck routes. Designated truck routes provide access to major activity centres such as port, airport, commercial areas, and industrial areas, while limiting the impact of truck traffic on residential neighbourhoods.

The Greater Vancouver goods movement system plays a major part in fulfilling the region's role as a North American gateway for international cargo and passengers. For the region, it provides vital links to world markets for businesses and residents, and supports local business. Transportation also generates numerous direct benefits as a major regional employer.

The goods movement industry is changing. More and more companies are shifting to 'just-in-time' production with trucks becoming 'mobile warehouses' for many users. The impact of e-commerce is likely to fuel these changes further, although the extent to which this will happen is as yet unknown.

Access to gateway facilities was profiled in Transport Canada's *B.C. Freight Transportation System Study* (1996). This study examined current and 2005 demand for freight movement. By 2005, it was projected that about 117 million tonnes of freight would pass through the three ports and the airport. By 1998, however, freight traffic already reached 113 million tonnes throughput. Based on this growth rate, it is anticipated that gateway facilities will reach 117 million tones by 2000 – about five years before projected. This study concluded:

- Highways and roads leading to gateway facilities (e.g. Vancouver International Airport, Port of Vancouver) are operating in congested or near-congested conditions;
- Commuter traffic is a major impediment to intra and inter-regional movements of freight by truck;
- Linkages between gateway facilities and highways are poor; and
- Railway system operations are constrained by congestion, at-grade street crossings and lack of available land for future expansion.

A significant direction in Transport 2021 was to move goods effectively, efficiently, safely and reliably. Since Transport 2021 was completed, there has not been an explicit focus on goods movement.

Rapid Transit – Helping To Shape Our Region

Rail transit is one key catalyst for development, and the provision of rail transit will help to support the development of town centres and development in the Growth Concentration Area. As such, rail transit is an integral part of the Livable Region Strategic Plan.

The Province has recently initiated the expansion of the SkyTrain system, and is constructing an extension from New Westminster to Vancouver Community College. This project consists of two parts of two separate lines that both the Province and the GVRD identified as high priority. These two lines are the New Westminster to Coquitlam Centre line and the Central Broadway to Lougheed Mall line and together are referred to as the 'T-Line.'

The present expansion program does not meet regional planning and transportation objectives, and will not until it is extended to Coquitlam and Central Broadway. The Province and TransLink have reached agreement on a process and cost sharing to extend the line to these endpoints. However, the parties have not reached final agreement on either extension.

The existing SkyTrain line is a relatively cost-effective component of the regional transit system when the proportion of operating costs recovered through fares is considered. Approximately 80% of SkyTrain's operating costs are recovered through fares. However, because of SkyTrain's high capital costs, the total proportion of costs recovered through fares is less than 20% when all cost are considered.

The existing Vancouver-Surrey line is now at capacity in the peak periods and the number of vehicles will be increased in line with previously approved plans. By January 2001, TransLink will take delivery of 20 Mark II cars, which can provide a capacity increase of approximately 25% over current levels.

Customer surveys indicate two concerns related to SkyTrain - fare collection and security. Proposals in the Strategic Transportation Plan will seek to address those issues.

> *Transport 2021 called for the completion of three rapid transit lines by 2006, including the New Westminster to Coquitlam line, the Central Broadway to Lougheed line, and the Richmond line.*

Bus System – Transit's Core Service

Buses are the most flexible transit service. Buses operate on existing roadways. They can be diverted for construction or congested conditions. Capacity on a route can be increased or decreased reasonably quickly. In the rush hour, one forty foot bus can typically displace twenty one automobiles. These cars can occupy as much as 1,700 feet of a moving traffic lane in urban travel conditions. Different bus types can be used to provide different types of service.

One of the major constraints on the quality of the region's bus service has been the lack of buses to keep up with a growing population and a growing demand for bus travel, particularly within the Growth Concentration Area. For example, between 1990 and 1995, the region's bus fleet did not grow, despite that fact that the region's population grew by approximately 15%.

Nevertheless, some improvements have been made in the bus system over recent years, including an increase in the bus fleet from 1,024 in 1997 to 1,109 in 1999, and the introduction of new services, including the highly successful Broadway B-Line. The reliability of bus service has also increased in the past two years. Bus ridership has increased from 122.7 million in 1997 to 123.9 million in 1999. There is still a need for further expansion and new types of services.

The provision of priority for buses on the region's roads has been limited to date. There are relatively few bus lanes on the major road network, and limited application of transit signal priority. These limitations make providing high speed and reliable bus service difficult. Transit speeds have slowed by 7% in the last decade, effectively reducing the carrying capacity of the transit fleet by a like amount and increasing the cost of providing services. Similarly, the reduced number of seats on new diesel buses today compared to a decade ago (i.e. typically 38 compared to 48 seats) can reduce the effective capacity of the system.

TransLink conducts regular studies measuring usage and attitudes toward transit use. A 1999 household survey identified a number of areas that need improving including:

- overcrowding conditions;
- having direct bus routes with few transfers; and
- having transit service information more readily available.

Needed Transit Improvements Identified by Users

Attribute	Frequency of response
More frequent service	30%
Have schedules/info on buses and at stops	17%
Better, more convenient connections	17%
Lower fares	16%
Better/more direct routes	14%
Need more routes /add extra routes	9%
More transit info operators/more phone lines	8%
Be on time/stick to schedule	8%
Be friendlier/more courteous drivers/staff	5%
Run service later at night	5%
Better/safe drivers	5%

Source: MarkTrend, TransLink Rider Satisfaction Study, 2nd quarter, 1999/00

Riders are also periodically asked how service could be improved. Ridership surveys are showing problems of overcrowding and reliability on a number of routes within the Growth Concentration Area, and particularly within the City of Vancouver. In suburban areas, riders have identified frequent problems of connections between local feeder buses and regional buses.

While some improvements in the bus system have been made, they fall behind targets and customer demand. Additional and improved services are required. However, it is also clear that the cost per passenger of bus services is increasing as additional services are introduced in areas of lower ridership and as congestion delays increase for buses on the region's roads. Without more customer-friendly bus service, more transit-friendly land use and additional bus priority and transportation demand measures, this situation will continue.

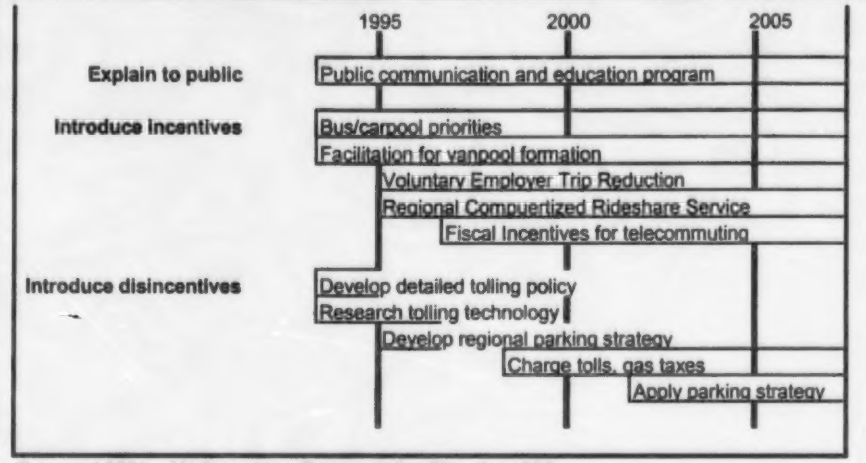
> *Transport 2021 proposed an almost doubling of the bus system (from 1,109 buses in 1999 to 1,900 by 2006), a much greater diversity of the types of transit services, including local community based services and new HOV lanes, in conjunction with much stronger transportation demand management.*

Transportation Demand Management

Managing transportation demand requires the phased introduction of both incentives ("carrots") – such as High Occupancy Vehicle lanes, preferred parking for vanpools and expanded carpool programs – and disincentives to automobile travel ("sticks") such as parking controls and road user charges.

As shown below, Transport 2021 proposed that significant progress would have been made by 2000 in implementing a comprehensive Transportation Demand Management program. In particular, Transport 2021 anticipated that tolls would have been introduced and a regional parking strategy would have been well underway.

Recommended Phasing of TDM Strategies


1995
2000
2005
Explain to public
Public communication and education program
Introduce incentives
Bus/carpool priorities
Facilitation for vanpool formation
Voluntary Employer Trip Reduction
Regional Compuertized Rideshare Service
Fiscal Incentives for telecommuting
Introduce disincentives
Develop detailed tolling policy
Research tolling technology
Develop regional parking strategy
Charge tolls, gas taxes
Apply parking strategy

Transport 2021 - Medium range Transportation Plan Oct 1993

i) Trip Reduction

In recent years there has been growing awareness of the need for more choices in transportation to help meet people's complicated travel needs. These alternatives need to be priced right, provide an acceptable trip time, and be flexible. Prior to TransLink's establishment, some of these programs were institutional orphans with no agency having a clear mandate for their implementation.

Carpooling has not shown the gains expected over the last few years. From 1985 to 1994, the proportion of car passenger trips remained about the same at 19%. There could be a number of reasons for this, including: when transit alternatives are available, people tend to choose transit over carpooling; varying trip needs are difficult to accommodate with different work hours; and carpool incentives, such as parking incentives and road priority, are not enticing enough.

A small but successful van and carpooling service operates in the region through the Jack Bell Foundation. The Foundation provides car and vanpool service to over 600 commuters per day, on relatively long trips, at minimal subsidy. A recent study suggests that this program could be expanded substantially.

Experience in the U.S. has shown that carpooling, vanpooling, employer-based programs and group transit programs (such as the University of Washington's 'U-Pass') may be valuable components of an overall transport strategy. TransLink is working with the University of BC on the implementation of a U-Pass type of system.

ii) Parking and Pricing

There has been significant slippage from the parking and pricing targets set in the Livable Region Strategic Plan and Transport 2021. In part, this is due to the lack of co-ordination of policies of various government agencies.

Parking supply in the region is determined by municipal bylaws, and is relatively plentiful in many areas. While pricing is determined by the market in some areas, extensive free and subsidized parking is provided in many areas outside Vancouver. Many employers continue to provide free parking for employees, much of it on a tax-free basis. Meanwhile, employer support for transit riders is considered a taxable benefit.

In general, the implementation of the transportation demand management strategy, which formed part of the foundation for the Livable Region Strategic Plan and included components for carpooling and vanpooling, parking management strategies, and pricing, has been very limited.

> *All of the performance targets for Transport 2021 assumed implementation of a host of Transportation Demand Management measures, including extensive carpool and vanpool programs, a coordinated regional approach to managing parking and significant financial disincentives to single occupant automobile use.*

Walking and Cycling – Key Priorities

Cycling is a small but important and growing market. The journey to work figures for 1996 show that within the Growth Concentration Area, almost 2% of people (13,000) travelled to work by bicycle. Outside the Growth Concentration Area, about 1%, 3,140 people, rode to work. It is estimated that about 10% to 15% of grade school students ride to school where traffic conditions are safe and bike racks are available. High school bicycle use is relatively small. College and university student bike use can be as high as 10% or greater. TransLink's most recent travel survey for 1999 shows that, overall, 3% of all trips (for all purposes) were taken by bicycle on a typical day.

Journey to work information from the 1996 census shows that approximately one-third of all work trips are 5 kilometres or shorter. This demonstrates that, relative to the current usage of 3% of all travel, there is a significant potential for increased cycling. Continued improvement of a safe cycling network, secure bike storage, and change facilities will all help promote cycling. Municipal bicycle parking by-laws can ensure cycling needs are factored into all new developments.

Improving cycling access to transit means that transit can expand its "catchment area" from which it draws passengers by up to 10 times. This signals the need for bicycle storage at transit stations and bike racks on all buses. SeaBus and West Coast Express allow bicycles on board. This practice should be continued and ways of moving bicycles on SkyTrain will also be investigated.

Many municipalities have started to develop bicycle networks, and further expansion is planned. These will contribute to increased cycling.

Walking is the mode often neglected in transportation planning. However, it makes a significant contribution to the non-auto trips made in the region - and it is the mode that costs the transportation system the least to serve. The 1996 Journey to work figures show that almost 6% of trips to work are walking trips, accounting for almost 47,000 trips per day. Much suburban development is not pedestrian-friendly. Distances between destinations may be longer than a comfortable walk, and pedestrians encounter auto-oriented development, with wide streets, turn lanes, narrow sidewalks and limited amenities that create a less than desirable environment.

When all trips are considered (school, shopping, etc) walking and biking account for 12.4% of all trips made in the region and actually exceed the total number of trips made on transit per day.

> *Increased walking and cycling are implicit in the Livable Region Strategic Plan objectives for town centres and growth concentration, and in Transport 2021 assumptions for transit ridership and limitations on growth in single occupant vehicle traffic.*

Major Road Network

In April 1999, the Major Road Network (MRN) came into being. It comprises approximately 2,200 lane-kilometres of roads that are the key travel routes in the region. TransLink funds the Major Road Network, however, all roads in the Major Road Network remain under municipal control. Operations, maintenance, rehabilitation and construction are carried out by the municipalities. TransLink's role is to ensure that the Major Road Network is maintained and rehabilitated to acceptable standards and in a cost-effective manner. The program will also include the identification of appropriate standards and development of a cost-tracking system.

In addition to the routine maintenance and rehabilitation on the Major Road Network, TransLink will also be undertaking major pavement rehabilitation of below-standard roads devolved from the Province. Municipalities have also committed to do the same on the below-standard uploaded municipal roads.

The municipalities, in conjunction with TransLink, have provided a sound basis for improvements in the major road network. The formal definition of the network, the development of an agreed approach to maintenance standards, and a process for prioritizing capital expenditures are major achievements. A long term funding administration and performance monitoring arrangement is under development to guide the maintenance and rehabilitation of the Major Road Network.The Major Road Technical Advisory Committee is working on standards for traffic control systems which will lead to the capability to manage the regional traffic system on a cooperative, integrated basis.

There are capacity and congestion issues in some parts of the regional road network – the provincial system and the Major Road Network. These limitations affect goods movement, transit and automobile travel.

> *The Major Road Network is a major component of the regional transportation system. Appropriate development and integrated management of the Major Road Network to provide capacity for goods movement, transit, and increasing automobile traffic are core elements of an effective transportation system*

Air Quality – A Key Regional Objective

The region's air quality has been improving and is now better than most North American urban regions. The improvements are due to changes in the region's economy, the Greater Vancouver Regional District's Air Quality Management program, and to the Provincial AirCare program (now a TransLink responsibility). As local oil refineries closed, and the timber and paper mills reduced the burning of wood waste, together with more effective air quality regulation, the significance of major "point" (stationary) sources of pollution diminished. The importance of controlling "mobile" (vehicle) sources increased, as they became responsible for a significant proportion of the remaining air pollution. A review of the effectiveness of the AirCare program concluded that the AirCare program made a greater contribution to improved air quality than the presence of newer vehicles meeting higher emission standards.

Cars are now the region's major source of the air emissions that cause concern for health, the local environment and global warming. Larger, less fuel-efficient vehicles have become more popular, so some of the benefits of AirCare and improved technology are now being diminished.

In its present review of the region's Air Quality Management Plan (AQMP), the GVRD has added concerns about greenhouse gas emissions to its list of issues. While greenhouse gases do not yet have a tangible impact on local air quality, they are a serious concern. By agreeing to the Kyoto Protocol, Canada has set itself a difficult target to reduce its greenhouse gas emissions to 6% below 1990 levels by 2010. Since greenhouse gas emissions have increased since 1990, the reduction required in the GVRD is 35% by 2010. In this region, motor vehicles are the largest single consumer of fossil fuels and are therefore the largest source of greenhouse gas emissions. Control of the growth in automobile use is the major opportunity to control both greenhouse gas emissions and emissions which are locally significant from a smog and health perspective.

> *Improving air quality is a key regional objective. Effective air quality management programs will contribute, but management of travel demand and minimization of congestion will be required to provide a solution in the face of growth.*

Regionalization and Funding of Transportation Management

The creation of TransLink is a major joint achievement of the Greater Vancouver Regional District and the Province. Regionalization of transportation planning and service delivery integrates transportation planning and land use planning to a greater degree than in the past, and more than in many other metropolitan areas.

In the creation of TransLink, the Province and region agreed on a funding formula that provides the highest proportion of provincial funding for regional transportation in Canada. The Province has transferred a portion of its gas tax revenue and its 7% sales tax on parking to TransLink, and has provided authority for new revenue sources. Although closely linked to the Greater Vancouver Regional District, TransLink is a single purpose agency. That means that all TransLink revenues are dedicated to improving transportation in the region.

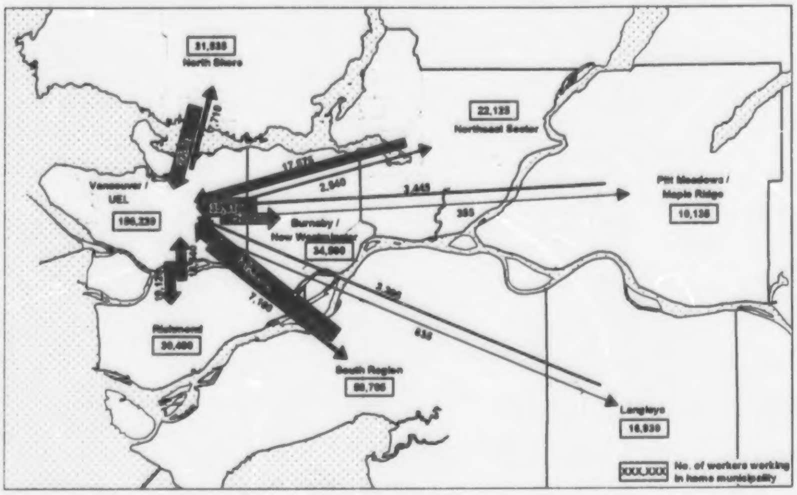
> *Dedicated transportation funds – 100% of TransLink's revenues are required to be spent on transportation services and facilities.*

Appendix 4 – Commuting Patterns by Sub-Region for the Journey to Work (all day, 1996)

Vancouver/UEL

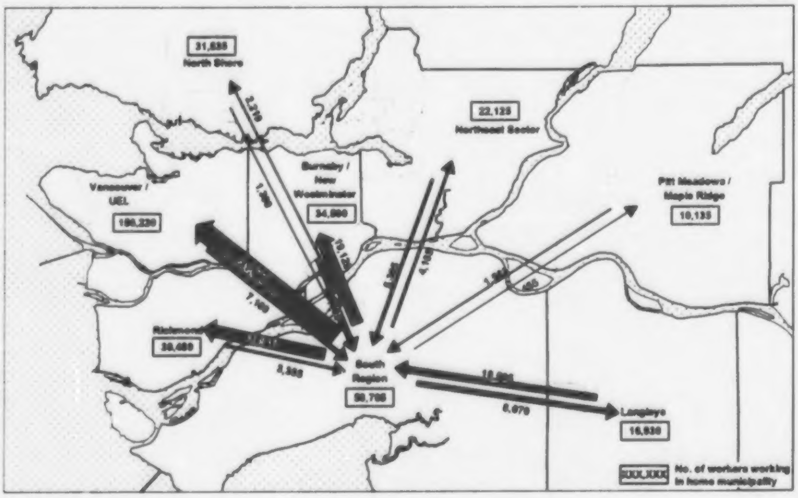
Vancouver residents mainly travel to Burnaby, Richmond. There are significant movements from all other areas to Vancouver.

All of these movements are reasonably well served by transit.


31,835
North Shore
22,125
Northeast Sector
Vancouver / UEL
Pitt Meadows / Maple Ridge
10,135
Burnaby / New Westminster
34,990
2,940
385
7,190
Richmond
30,480
South Region
Langleys
16,930
XXX,XXX No. of workers working in home municipality

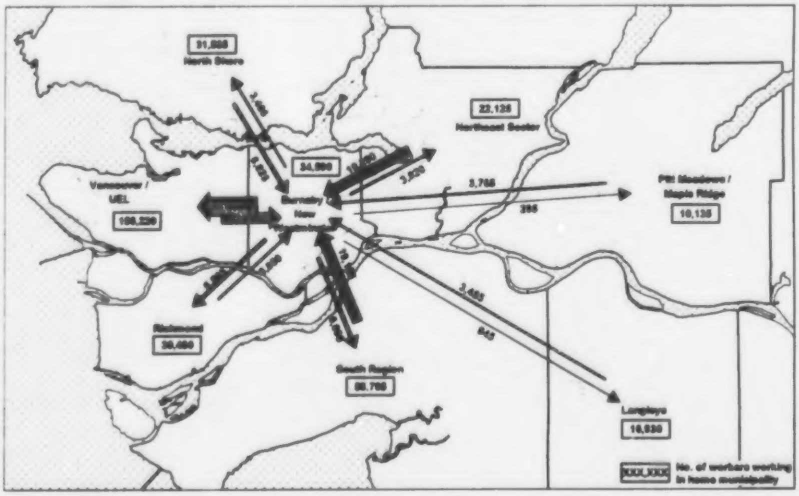
Surrey/Delta/White Rock

The dominant movements are out of the area to Vancouver, Burnaby and Richmond. Trips to Richmond are very significant but very poorly served by transit today. This presents a potential new transit market.


31,835
North Shore
22,125
Northeast Sector
Burnaby / New Westminster
34,990
Vancouver / UEL
Pitt Meadows / Maple Ridge
10,135
7,190
Richmond
30,480
South Region
Langleys
16,930
XXX,XXX No. of workers working in home municipality

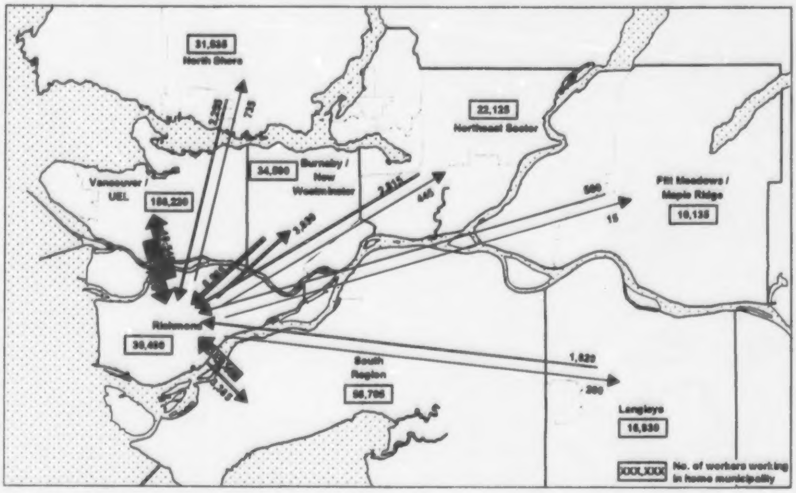
Burnaby/New Westminster

Travel out of the area is primarily to Vancouver. Travel into the area is from Vancouver, South of the Fraser and the NE Sector.


31,835
North Shore
22,125
Northeast Sector
34,990
Vancouver / UEL
Burnaby / New
3,705
385
Pitt Meadows / Maple Ridge
10,135
Richmond
30,480
South Region
Langleys
16,930
XXX,XXX No. of workers working in home municipality

Richmond

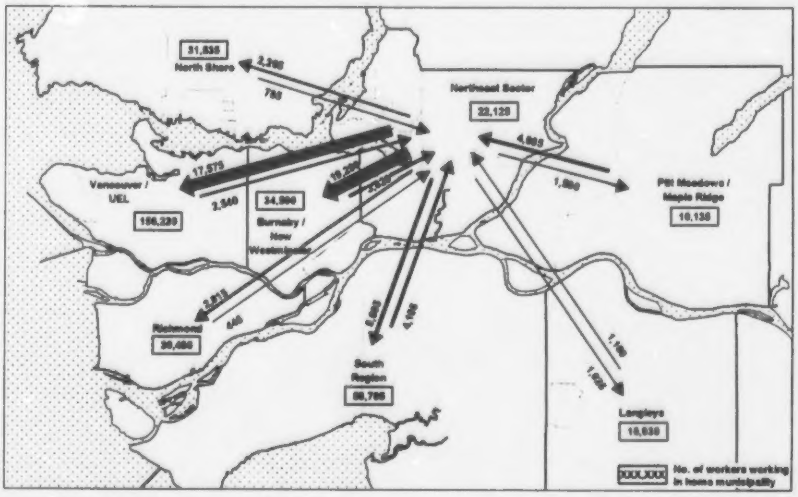
There are strong movements in both directions between Richmond and Vancouver and from S. of the Fraser e.g. Surrey) to Richmond. This latter movement is not well-served by existing bus services and offers a significant new market for transit


31,838
North Shore
735
22,135
Northeast Sector
34,890
Burnaby / New Westminster
Vancouver / UEL
156,220
2,815
440
3,830
590
15
Pitt Meadows / Maple Ridge
10,135
Richmond
38,490
South Region
98,795
1,820
200
Langleys
16,930
XXX,XXX No. of workers working in home municipality

Northeast Sector

Travel from the NE Sector is strongest to Vancouver and Burnaby/NW with only limited movement into the areas in comparison.

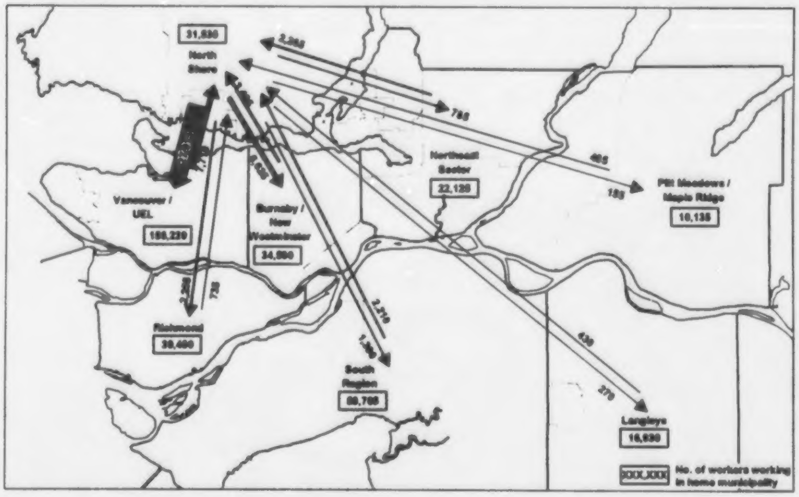
Transit serves travel to Vancouver and Burnaby relatively well.


31,838
North Shore
2,390
785
Northeast Sector
22,125
17,575
2,540
Vancouver / UEL
156,220
34,890
Burnaby / New Westminster
4,885
1,850
Pitt Meadows / Maple Ridge
10,135
2,815
440
Richmond
38,490
4,105
South Region
98,795
1,180
Langleys
16,930
XXX,XXX No. of workers working in home municipality

North Shore

Travel from the North Shore is overwhelmingly to Vancouver with some significant but secondary movement to Burnaby/NW.

These movements are well served by bus and SeaBus.


31,830
North Shore
785
Northeast Sector
22,120
465
185
Pitt Meadows / Maple Ridge
10,135
Vancouver / UEL
156,220
Burnaby / New Westminster
34,890
735
Richmond
38,490
South Region
98,795
430
270
Langleys
16,930
XXX,XXX No. of workers working in home municipality

APPENDIX 5 - Summary of Technical Development of the Plan

There were three phases in the development of the draft Strategic Transportation Plan:

1. preparation and presentation of a discussion paper to initiate dialogue with the public and key stakeholders (September/October 1999);
2. Future Search consultation process (September 1999); and
3. further refinement and testing of plan scenarios (November 1999)

These steps are summarised below.

Strategic Transportation Plan Discussion Paper

To initiate dialogue on TransLink's first strategic plan, a discussion paper, "*Our Future: Making the Right Moves*", was prepared and distributed in September 1999. Three sample scenarios were presented for the transportation system in 2005. Each scenario included a package of transportation improvements in the areas of roads, transit and cycling, along with corresponding costs and the expected deficit, assuming no increases in fares, taxes or new revenue sources.

The three scenarios were:

"Wait a Minute": This scenario represented restrained spending on both transit and roads, similar to the pattern of recent years in terms of transit bus fleet expansion. The fleet would grow by 45 buses a year to 1,320 in 2005, with few new Community or Express bus services, although B-Line would proceed as planned. Relatively little would be available to spend on roads under this scenario. This option would not support the Livable Region Strategic Plan (LRSP) objectives of decreasing the share of car trips and expanding transit trips. The annual deficit by 2005 would be in the order of $50 million.

"Current Path": This scenario would see faster expansion of transit supply than the last five years. It would increase transit's share of peak hour travel to 12.3% by 2005, short of the target needed to meet the LRSP target of 17% by 2006. The transit fleet would be expanded by 400 buses. There would be some limited expansion in the road network (50 lane kilometres) with no major road projects planned. There would be some investment in ITS. A region-wide vehicle charge would provide a new source of funds, but would not have much impact on the demand for vehicle travel. While this scenario would see some increase in transit, it would not be enough to fully support the LRSP. The annual deficit by 2005 would be in the order of $95 million.

"To Boldly Go": This scenario proposed transit expansion which could meet the needs of the LRSP, and also addressed some of the goods movement and road issues. It also assumes a willingness to take action on issues such as transportation pricing and parking. The bus fleet would grow by 600 buses, including 100 new Community buses and more premium Express services on major commuter routes. The budget for road expansion would be $60 million, and would include expansion of 200 lane kilometres to the major road network (i.e. Fraser Highway, South Fraser Perimeter Road), and planning for the replacement of the Albion Ferry with a bridge. Significantly more would be spent on ITS. The annual deficit by 2005 would be in the order of $163 million.

Public input to the Discussion Paper and the three scenarios was solicited at twelve public meetings held throughout the region. Of the three scenarios presented, there was broad support for the "Current Path" and the "To Boldly Go" scenarios, and little support for "Wait a Minute". There was general support for a balanced approach to improving the transit and roads systems, with an emphasis on transit. There was also recognition of the need for additional resources to pay for these improvements through new transportation-related charges and acceptance of the concept of "user pay".

TransLink convened meetings with key stakeholders of the transportation system, including the staffs of GVRD municipalities and private sector representatives. Presentations on the STP were made to two existing TransLink advisory committees, the Transit Technical Advisory Committee and the Major Roads Technical Advisory Committee, both of which are made up of senior municipal staff (engineers and planners). A special STP Technical Advisory Committee, established to solicit input from private and public sector stakeholders of the transportation industry, also discussed the STP. In addition, the discussion paper was presented to the GVRD's Technical Advisory Committee. The outcome of this consultation process was a general preference for the "To Boldly Go" scenario.

Future Search

TransLink facilitated a "Future Search" visioning process that brought together stakeholders with differing views and enabled them to reach a consensus on a vision for the regional transportation network. The "Future Search" process took place between September 16-18, 1999 and involved 70 participants. The stakeholders present identified 12 dominant themes of the desired future.

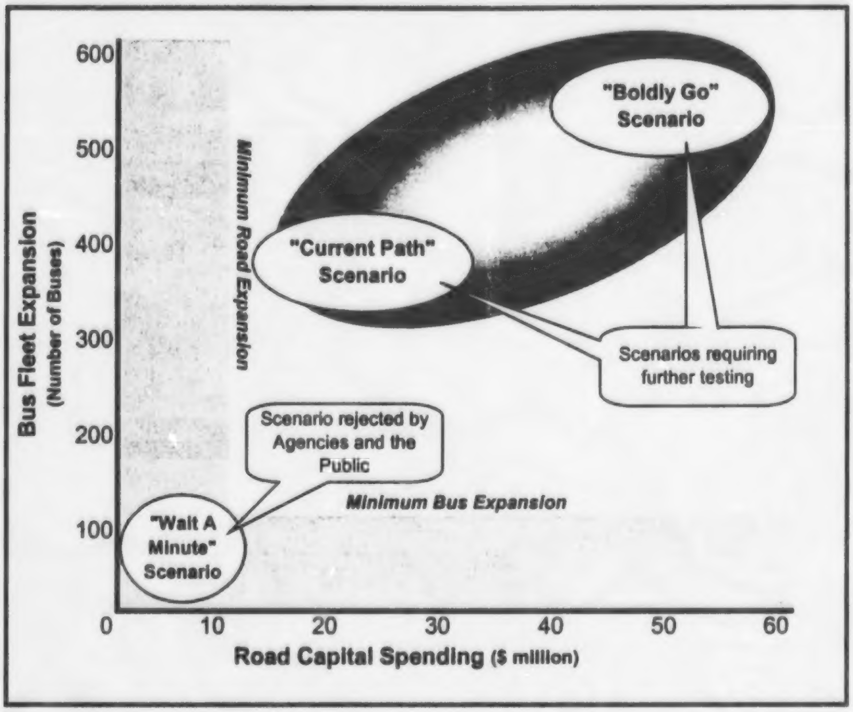
As part of the STP planning process, the three scenarios presented in the Discussion Paper were evaluated as to the extent to which they were able to address the 12 dominant themes, i.e. high, medium or low (see table below). The "To Boldly Go" scenario was found to effectively best support most of the 12 identified future search themes.

Future Search Themes and Priorities

Future Search theme	Wait a Minute	Current Path	Boldly Go
1. Applied Technology	medium	medium	high
2. Safety and security	low	medium	medium
3. Integrated system	medium	medium	high
4. Dedicated corridors	low	medium	high
5. More mobility choices	low	medium	high
6. Complete communities	low	medium	high
7. Customer focus/ Employee/Community pride	low	medium	high
8. Environmentally friendly	low	medium	high
9. Goods movement	low	low	high
10.Cost effective	low	medium	high
11.User pay	low	medium	high
12.Effective Land Use	low	medium	high

Further refinement and testing of STP scenarios

As indicated above, there was very little support for the "Wait a Minute" approach as it represented minimal transit expansion, reduced road spending, and minimal support for regional goals (i.e. the Livable Region Strategic Plan). The focus for plan development therefore turned towards the "Current Path" and "Boldly Go" options.


Bus Fleet Expansion (Number of Buses)
0
100
200
300
400
500
600
Road Capital Spending ($ million)
10
20
30
40
50
60
Minimum Road Expansion
Minimum Bus Expansion
"Boldly Go" Scenario
"Current Path" Scenario
Scenarios requiring further testing
Scenario rejected by Agencies and the Public
"Wait A Minute" Scenario

Using a set of preliminary limits (400 vs. 650 expansion buses, $10M vs. $60M in MRN capital spending), the two scenarios were detailed and evaluated. The technical analysis included the following steps:

Step 1

The current situation was documented for transportation facilities, services and usage. This information was used to measure the effectiveness of the options and to develop future targets.

Step 2

Future transit services and road projects were identified by staff from TransLink, the municipalities and the Province. Each service and project was evaluated independently to determine its relative benefits and costs. For example, the benefit/cost of a future B-Line service between SFU and downtown was compared to overall frequency increases on crowded bus routes. Similarly, the benefit/cost of regionally significant road projects were compared to one another (e.g. South Fraser Perimeter Road vs. a new Fraser River Crossing between Maple Ridge and Langley).

Transit. The analysis indicated that over the next five years the most significant transit benefits would be achieved by:

- increasing the CityBus fleet by 200 to 400 more buses. These buses would first be used to address crowding issues on busy routes and, second to provide lower minimum policy headways in suburban areas.
- three new Express Bus Regional Town Centre connectors (Surrey-Richmond, Richmond-Metrotown and Coquitlam-Surrey) also showed significant benefits. In addition, the Coquitlam/Lougheed Mall B-Line would help to establish ridership in the future SkyTrain corridor, and Vancouver CBD/UBC and SFU/Vancouver CBD B-Line lines would help to support growing university markets.

Roads. Several of the road projects demonstrated significant benefits:

- the Fraser River crossing showed the most significant customer benefits and served the local travel market between Maple Ridge and North Surrey (Port Kells) and Langley;
- the Stormont/McBride Connector, Highway 10, Fraser Highway, Dollarton Highway and United Boulevard also showed significant benefits; and
- the South Fraser Perimeter Road (SFPR) in its current configuration (Highway 15 to the Alex Fraser Bridge) would provide improved access to industrial areas and ports for trucks and alleviate traffic on River Road in Surrey. This project produced a lower benefit/cost ratio than the other projects. However, truck benefits have not been fully considered.

Step 3

The information from Step 2 was used to define an optimum mix of transit services and road improvements for the "Current Path" and "Boldly Go" scenarios. The two scenarios were then evaluated against a list of specific criteria (both quantitative and qualitative). These criteria measure the degree to which specific goals and objectives are satisfied by the scenario. For instance, capital and operating costs, travel time savings for goods movement, atmospheric emissions, accident costs, number of new transit rides were estimated for each scenario. This information was also compared to current day statistics established in Step 1.

Step 4

Based on the analysis of the two scenarios, a "Recommended" scenario was developed that incorporated the optimal elements of each scenario. This scenario was evaluated and compared to the "Current Path" and "Boldly Go". The "Recommended" scenario represents a middle ground that would result in more than 500 expansion buses and up to $60 million in annual capital spending on the MRN to support regionally significant projects. Comparison of the three scenarios showed that the "Recommended" had the highest benefit/cost ratio and would result in a significant increase in transit ridership at the lowest cost per passenger. With respect to environmental, social and indirect effects, all scenarios were similar.

The following table shows the effect that the "Recommended" scenario would have on transit ridership. In 1999, the region-wide am peak hour transit mode share is approximately 10.6%, and varies between 5.6 and 17.8% according to sub-area. Under the "Recommended" scenario, the regional transit mode share would increase to 12.4% in the am peak hour, varying between 7.6 and 19.6% by sub-area. In absolute terms, the number of people taking transit would increase by almost 25%, while the population is only forecast to grow by 12% (13% of the growth can be attributed to improved services). Significant increases in transit fares or automobile pricing would impact these transit mode share and annual ridership targets.

Projected Increase in Transit Use Under Recommended Strategy

	1999 Base		2005 Recom'd		Absolute Diff	
	Transit Trips	Transit Mode Share	Transit Trips	Transit Mode Share	Transit Trips	Transit Mode Share
North Shore	4,850	10.1%	5,600	11.8%	750	1.7%
Richmond	3,980	9.1%	5,050	11.5%	1,070	2.4%
South of Fraser	8,340	5.6%	12,750	7.6%	4,410	2.0%
UBC / Vancouver	26,450	17.8%	29,950	19.6%	3,500	1.8%
Burnaby / New Westminster	7,060	11.3%	9,630	13.3%	2,570	2.0%
North East Sector	4,820	6.9%	7,580	8.9%	2,760	2.0%
Regionwide (GVRD)	55,500	10.6%	70,560	12.4%	15,060	1.8%

The recommended strategy offers the public an increase in services and infrastructure that is consistent with expectations and is delivered in an efficient and equitable manner. This strategy moves us closer to the targets of the LRSP; however, there are significant financial implications which need to be reviewed.

A separate technical report outlines the development of the plan and the evaluation in more detail.

APPENDIX 6 – Financial

Note: The figures for 1999 represent a 9-month fiscal year.

TRANSLINK: 10-YEAR FINANCIAL SUMMARY (RECOMMENDED REVENUE STRATEGY)

	Budget	Projected									
($ MILLION)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SERVICE LEVEL											
Total Service Hours (million)	3.48	4.71	4.93	5.24	5.63	5.88	6.21	6.39	6.51	6.64	6.76
Bus (incl. SeaBus, West Van, Community Service)	2.66	3.62	3.83	4.10	4.36	4.59	4.79	4.95	5.05	5.15	5.24
SkyTrain	0.47	0.63	0.62	0.64	0.75	0.75	0.86	0.86	0.86	0.86	0.86
WCE	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
handyDART	0.33	0.44	0.46	0.47	0.49	0.51	0.53	0.55	0.57	0.60	0.62
% of Innovative Service of Total Bus Hours	2.4%	3.0%	3.6%	4.1%	4.5%	5.0%	5.2%	5.1%	5.0%	5.0%	4.9%
Total Ridership (million)	95.3	127.9	132.1	138.6	141.3	146.4	152.5	151.2	154.0	156.7	154.7
Fleet (vehicles)											
Buses	1,125	1,175	1,293	1,396	1,488	1,568	1,640	1,680	1,716	1,758	1,783
SkyTrain Cars	150	170	210	210	217	223	247	247	257	257	257
WCE Trains	6	5	5	6	6	6	6	6	6	6	6
Custom Vans and Buses	251	243	252	261	275	286	296	312	324	338	351
CAPITAL EXPENDITURES											
Transit Related ($ million)		266.1	156.3	187.9	157.7	137.0	129.6	710.2	183.2	318.3	81.2
Road Related ($ million)		26.6	31.1	44.7	67.3	83.9	79.4	65.4	65.4	65.4	65.4
Other Capital ($ million)		13.4	4.5	5.0	5.6	7.1	7.1	7.2	7.2	7.2	7.3
REVENUES											
Fare Revenue	135.0	196.5	215.2	225.2	260.0	268.9	279.5	310.6	316.3	321.7	352.0
Other Operating Revenue	3.1	4.2	4.3	4.3	4.4	4.5	4.5	4.6	4.7	4.7	4.8
AirCare Fees	6.6	24.3	24.7	24.9	25.3	25.8	26.2	21.1	-	-	-
Interest Income	2.4										
Operating Revenues	147.2	225.0	244.2	254.4	289.7	299.1	310.2	336.3	320.9	326.4	356.8
Non-residential Property Tax	35.4	36.8	38.1	39.3	40.6	41.9	43.3	44.7	46.1	47.6	49.1
Hydro Levy	11.8	16.1	16.5	16.8	17.1	17.4	17.7	18.1	18.3	18.6	18.9
Fuel Tax	127.9	173.8	193.6	201.8	213.0	218.7	230.4	236.4	239.3	242.1	245.1
Hospital Tax	52.8	54.4	56.4	58.1	60.0	62.0	64.1	66.2	68.3	70.4	72.6
Mission		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Parking Sales Tax	7.5	10.1	10.2	10.3	10.5	10.6	32.4	32.9	33.4	33.9	34.4
Vehicle Charge	-	-	23.4	95.4	102.0	109.0	116.5	124.5	132.8	141.7	151.1
Tax Revenues	235.4	291.3	338.4	421.9	443.4	459.9	504.6	522.9	538.3	554.5	571.3
REVENUES	**382.6**	**516.3**	**582.6**	**676.4**	**733.1**	**759.0**	**814.8**	**859.2**	**859.3**	**880.9**	**928.1**
OPERATING COSTS											
Bus	196.4	281.2	296.1	316.4	336.4	355.0	373.9	391.6	405.1	418.7	432.3
SeaBus	4.5	6.0	6.1	6.1	6.2	6.3	6.4	6.5	6.5	6.6	6.7
West Vancouver Bus	5.0	6.9	7.1	7.5	7.8	8.1	8.4	8.7	8.8	9.0	9.1
Community Service	-	0.6	2.5	4.4	6.4	8.4	9.9	10.1	10.3	10.7	11.1
SkyTrain	29.7	41.0	44.0	56.1	61.4	62.3	71.9	72.9	74.0	80.5	81.6
West Coast Express	16.3	21.8	22.3	24.3	27.5	28.4	29.5	30.5	31.7	33.0	34.3
handyDart	13.5	18.0	18.6	19.2	20.0	20.9	21.8	22.7	23.8	24.9	26.1
Transit Related Costs	265.4	375.5	396.6	434.1	465.7	489.4	521.8	543.0	560.3	583.4	601.3
Road Related Costs	17.7	28.0	35.4	31.7	31.5	31.6	32.1	31.9	32.1	32.5	32.4
AirCare Costs	6.8	20.6	21.0	21.2	21.6	22.1	22.5	17.4	-	-	-
ITS	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6
TDM	-	1.2	1.4	1.6	1.6	1.7	1.9	1.9	1.9	2.0	2.0
Administration Costs	22.9	27.4	29.0	30.3	30.7	31.2	32.9	33.4	33.9	34.4	35.0
OPERATING COSTS	**312.8**	**453.2**	**483.9**	**519.4**	**551.6**	**576.6**	**611.7**	**628.2**	**628.8**	**652.9**	**671.2**
DEBT SERVICE COST											
Exisiting Transit Debt Service	60.2	80.4	77.2	74.8	69.4	62.8	61.5	52.0	47.0	36.9	34.7
New Debt Service	-	10.8	37.7	66.8	94.3	118.6	141.2	212.8	241.2	279.8	301.1
DEBT SERVICING COST	**60.2**	**91.2**	**114.9**	**141.6**	**163.7**	**181.4**	**202.7**	**264.8**	**288.2**	**316.7**	**335.8**
Total Costs	**373.0**	**544.4**	**598.8**	**661.0**	**715.3**	**758.0**	**814.4**	**893.0**	**917.0**	**969.6**	**1,007.0**
ANNUAL SURPLUS (DEFICIT)	**9.6**	**(28.1)**	**(16.2)**	**15.3**	**17.8**	**1.0**	**0.4**	**(33.8)**	**(57.7)**	**(88.8)**	**(78.9)**
FUND BALANCE											
Beginning Balance	52.6	44.2	18.1	2.7	18.2	36.8	39.5	41.7	9.8	(47.5)	(136.3)
Annual Surplus (Deficit)	9.6	(28.1)	(16.2)	15.3	17.8	1.0	0.4	(33.8)	(57.7)	(88.8)	(78.9)
Extraordinary Expenses	(18.0)										
Interest on Fund Balance @ 4.5%		2.0	0.8	0.1	0.8	1.7	1.8	1.9	0.4	-	-
Debt Write-Down		-	-	-	-	-	-	-	-	-	-
ENDING CASH BALANCE	**44.2**	**18.1**	**2.7**	**18.2**	**36.8**	**39.5**	**41.7**	**9.8**	**(47.5)**	**(136.3)**	**(215.2)**

TRANSLINK: 10-YEAR FINANCIAL SUMMARY (NO REVENUE INCREASES)

	Budget	*Projected*									
($ MILLION)	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
SERVICE LEVEL											
Total Service Hours (million)	3.48	4.71	4.93	5.24	5.63	5.88	6.21	6.39	6.51	6.64	6.76
Bus (incl. SeaBus, West Van, Community Service)	2.66	3.62	3.83	4.10	4.38	4.59	4.79	4.95	5.05	5.15	5.24
SkyTrain	0.47	0.63	0.62	0.64	0.75	0.75	0.86	0.86	0.86	0.86	0.86
WCE	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
handyDART	0.33	0.44	0.46	0.47	0.49	0.51	0.53	0.55	0.57	0.60	0.62
% of Innovative Service of Total Bus Hours	2.4%	3.0%	3.6%	4.1%	4.5%	5.0%	5.2%	5.1%	5.0%	5.0%	4.9%
Total Ridership (million)	95.3	130.9	137.1	143.9	151.9	157.3	163.9	167.8	170.8	173.7	176.4
Fleet (vehicles)											
Buses	1,125	1,175	1,293	1,396	1,488	1,568	1,640	1,680	1,716	1,758	1,783
SkyTrain Cars	150	170	210	210	217	223	247	247	257	257	257
WCE Trains	6	5	5	6	6	6	6	6	6	6	6
Custom Vans and Buses	251	243	252	261	275	286	296	312	324	338	351
CAPITAL EXPENDITURES											
Transit Related ($ million)		286.1	156.3	187.9	157.7	137.0	129.6	710.2	183.2	318.3	81.2
Road Related ($ million)		26.6	31.1	44.7	67.3	83.9	79.4	65.4	65.4	65.4	65.4
Other Capital ($ million)		13.4	4.5	5.0	5.6	7.1	7.1	7.2	7.2	7.2	7.3
REVENUES											
Fare Revenue	135.0	183.7	192.0	200.8	211.3	218.4	227.1	232.3	236.4	240.4	244.2
Other Operating Revenue	3.1	4.2	4.3	4.3	4.4	4.5	4.5	4.6	4.7	4.7	4.8
AirCare Fees	6.6	24.3	24.7	24.9	25.3	25.8	26.2	21.1	-	-	-
Interest Income	2.4										
Operating Revenues	147.2	212.2	221.0	230.1	241.0	248.6	257.8	258.0	241.0	245.2	249.0
Non-residential Property Tax	35.4	36.8	38.1	39.3	40.6	41.9	43.3	44.7	46.1	47.6	49.1
Hydro Levy	11.8	16.1	16.5	16.8	17.1	17.4	17.7	18.1	18.3	18.6	18.9
Fuel Tax	127.9	173.8	193.6	201.8	213.0	218.7	230.4	236.4	239.3	242.1	245.1
Hospital Tax	52.8	52.4	54.3	56.0	57.8	59.7	61.7	63.7	65.7	67.8	69.9
Mission		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Parking Sales Tax	7.5	10.1	10.2	10.3	10.5	10.6	10.8	11.0	11.1	11.3	11.5
Vehicle Charge	-	-	-	-	-	-	-	-	-	-	-
Tax Revenues	235.4	289.3	312.9	324.4	339.1	348.6	364.1	374.0	380.7	387.6	394.5
REVENUES	**382.6**	**501.5**	**533.8**	**554.4**	**580.1**	**597.1**	**621.9**	**632.0**	**621.8**	**632.7**	**643.5**
OPERATING COSTS											
Bus	196.4	281.2	296.1	316.4	336.4	355.0	373.9	391.6	405.1	418.7	432.3
SeaBus	4.5	6.0	6.1	6.1	6.2	6.3	6.4	6.5	6.5	6.6	6.7
West Vancouver Bus	5.0	6.9	7.1	7.5	7.8	8.1	8.4	8.7	8.8	9.0	9.1
Community Service	-	0.6	2.5	4.4	6.4	8.4	9.9	10.1	10.3	10.7	11.1
SkyTrain	29.7	41.0	44.0	56.1	61.4	62.3	71.9	72.9	74.0	80.5	81.6
West Coast Express	16.3	21.8	22.3	24.3	27.5	28.4	29.5	30.5	31.7	33.0	34.3
handyDart	13.5	18.0	18.6	19.2	20.0	20.9	21.8	22.7	23.8	24.9	26.1
Transit Related Costs	265.4	375.5	396.6	434.1	465.7	489.4	521.8	543.0	560.3	583.4	601.3
Road Related Costs	17.7	28.0	35.4	31.7	31.5	31.6	32.1	31.9	32.1	32.5	32.4
AirCare Costs	6.8	20.6	21.0	21.2	21.6	22.1	22.5	17.4	-	-	-
ITS	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6
TDM	-	1.2	1.4	1.6	1.6	1.7	1.9	1.9	1.9	2.0	2.0
Administration Costs	22.9	27.4	29.0	30.3	30.7	31.2	32.9	33.4	33.9	34.4	35.0
OPERATING COSTS	**312.8**	**453.2**	**483.9**	**519.4**	**551.6**	**576.6**	**611.7**	**628.2**	**628.8**	**652.9**	**671.2**
DEBT SERVICE COST											
Exisiting Transit Debt Service	60.2	80.4	77.2	74.8	69.4	62.8	61.5	52.0	47.0	36.9	34.7
New Debt Service	-	10.8	37.7	66.8	94.3	118.6	141.2	212.8	241.2	279.8	301.1
DEBT SERVICING COST	**60.2**	**91.2**	**114.9**	**141.6**	**163.7**	**181.4**	**202.7**	**264.8**	**288.2**	**316.7**	**335.8**
Total Costs	**373.0**	**544.4**	**598.8**	**661.0**	**715.3**	**758.0**	**814.4**	**893.0**	**917.0**	**969.6**	**1,007.0**
ANNUAL SURPLUS (DEFICIT)	**9.6**	**(42.9)**	**(64.9)**	**(106.6)**	**(135.2)**	**(160.9)**	**(192.5)**	**(261.0)**	**(295.2)**	**(336.9)**	**(363.4)**
FUND BALANCE											
Beginning Balance	52.6	44.2	3.3	(61.5)	(168.1)	(303.3)	(464.2)	(656.7)	(917.7)	(1,212.9)	(1,549.8)
Annual Surplus (Deficit)	9.6	(42.9)	(64.9)	(106.6)	(135.2)	(160.9)	(192.5)	(261.0)	(295.2)	(336.9)	(363.4)
Extraordinary Expenses	(18.0)										
Interest on Fund Balance @ 4.5%		2.0	0.1	-	-	-	-	-	-	-	-
Debt Write-Down		-	-	-	-	-	-	-	-	-	-
ENDING CASH BALANCE	**44.2**	**3.3**	**(61.5)**	**(168.1)**	**(303.3)**	**(464.2)**	**(656.7)**	**(917.7)**	**(1,212.9)**	**(1,549.8)**	**(1,913.3)**

SENSITIVITY ANALYSES	IMPACT ON 2005 ANNUAL DEFICIT ($ MILLION)
1) General Inflation Assume the inflation rate is 1% higher or 1% lower each year from base case.	+/- 23.9
2) Fuel Tax Revenue Growth Assume that fuel consumption will grow at 50% of the rate of population growth or at the same rate as the population growth. Base case assumes 75%.	+/- 6.8
3) Interest Rate Assume a long-term borrowing interest rate of 7.5% p.a. or 5.5% p.a.	+/- 13.1
4) Ridership Assume that ridership decreases by 10% at the end of the plan period or increases by 10% at the end of the plan period.	+/- 20.2
5) Productivity Improvement Assume no productivity improvement per year for 5 years or a 1% per year improvement for 5 years.	+/- 7.8

APPENDIX 7 – Results of Public Consultation

Background and Purpose

As part of consultation to obtain public input to the draft Strategic Transportation Plan, TransLink commissioned the Angus Reid Group to conduct a public opinion poll of 629 residents aged 16 and over, during the week of February 7, 2000. The purpose was to gauge support for or opposition to each of the components of the draft Plan, and to understand the underlying reasons for the judgements expressed. The range of error around a sample of 629 is +/- 4.5%, in 19 samples out of 20.

Main Findings

Awareness of TransLink has increased over the fall and winter months. While awareness stood at 71% in October, by February it had increased to 84 percent of local residents having heard of TransLink. Unfortunately, people generally think that TransLink is the old BC Transit (84%) or the agency responsible for the SkyTrain extension (4%), with a very small minority being aware that TransLink is now responsible for major roads and bridges (4%).

Awareness and Support for the draft Strategic Transportation Plan

There was substantial unaided awareness of the Plan at the time of the poll, with 58% having heard of it. Of those who had heard of the draft Plan, support was very strong, at 68% of Greater Vancouver residents stating that they are in favour of the Plan.

During the course of the interview, the interviewer described each of the key components of the Plan to respondents, and then questioned them about their position regarding each component, including their position on various cost recovery measures. At the end of this half-hour discussion of the Plan, the respondent was then asked whether, having discussed all the components, they support or oppose the draft Plan. At this stage, support rises dramatically to 90 percent of the local population in favour of the Strategic Transportation Plan. Note that this is after the respondents have discussed the vehicle levy of $75 and given their opinions on this measure. Ninety percent support of the draft Plan from the local population is a strong endorsement for TransLink's initiative.

The strength of support is further illustrated by attitudes that were expressed in the course of the interview. A universally held attitude among residents in all parts of the Lower Mainland is "It is important to start work right away on the Strategic Transportation Plan," (94% of local residents agree). Underlying this attitude is the perception that there is a strong need to improve the transportation infrastructure, and that traffic congestion is a significant problem. The Plan is seen as a way of starting to address these problems.

Attitudes Toward Cost Recovery Measures

Despite the fact that a strong majority (83%) agree that "there will be costs to the quality of life, the economy and the environment, if people are not willing to pay for improved transportation", there was initially some resistance to various ways of paying for improvements, with the exception of increased transit fares (67% in favour) and tolls on new roads and bridges (56% in favour). The least supported measure initially was the $75 vehicle levy, which only 27% supported.

However, when the 51% of Greater Vancouver residents who are in favour of the components of the Strategic Transportation Plan, but initially opposed to the levy, were asked further questions to understand the nature of their opposition, 20% shifted their opinion to support the levy when provided with additional information that the levy and transit fare increase will allow a 50% expansion of SkyTrain, bus fleet and upgrading of some of the major arterial roads. Another 9% moved to support of the levy when told that the vehicle charge is the only mechanism TransLink can use to maintain transit and roads at their current level and fund new transportation services in the Plan.

Levy Support	Group	Proportion of Total Population
Support Levy (68%)	Support STP and levy outright	39%
	Support STP and levy when direct link to benefits made	20%
	Support STP and levy if no other choice	9%
Oppose Levy (32%)	Support STP but continue to oppose levy	22%
	Oppose STP	10%
	Total	**100%**

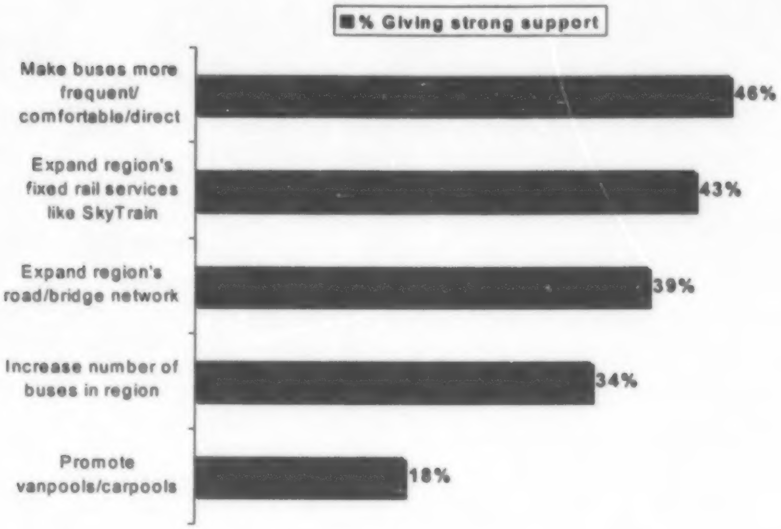
Thus, when people understand the linkage between the levy and the specific transportation improvements that will be paid for, only 22% continue to oppose the levy while supporting the Plan, and 10% oppose the Plan. This points to the critical importance of communications, in particular, for creating awareness about TransLink's responsibility for major roads and bridges.

In addition to communications support, various ways of implementing the vehicle levy will have a significant impact on its acceptance. User pay methods based on the amount of pollution from a vehicle, the main use of the vehicle or the number of kilometres driven would have stronger aggregate support than a flat fee that is the same for all vehicles. This leaves 68% of local residents in support of both the Strategic Transportation Plan and the vehicle levy.

Reaction to Specific Components of the draft Plan

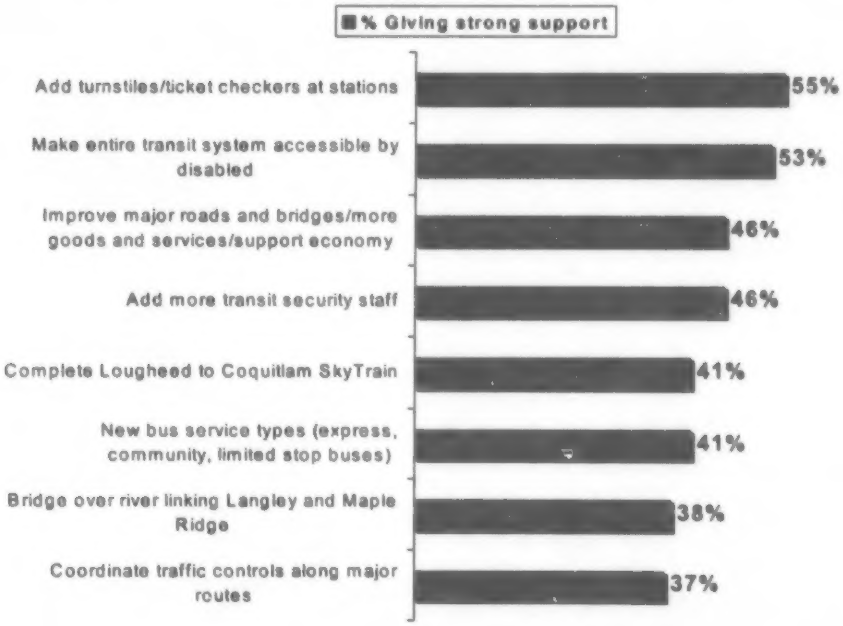
The components of the Plan that are most strongly supported are: "make the buses more frequent and comfortable and make bus routes more direct" (46% strong support), "expand the region's fixed rail services like SkyTrain" (43% strong support) and "expand the region's road and bridge network" (39% strong support).

Priority of Improvements

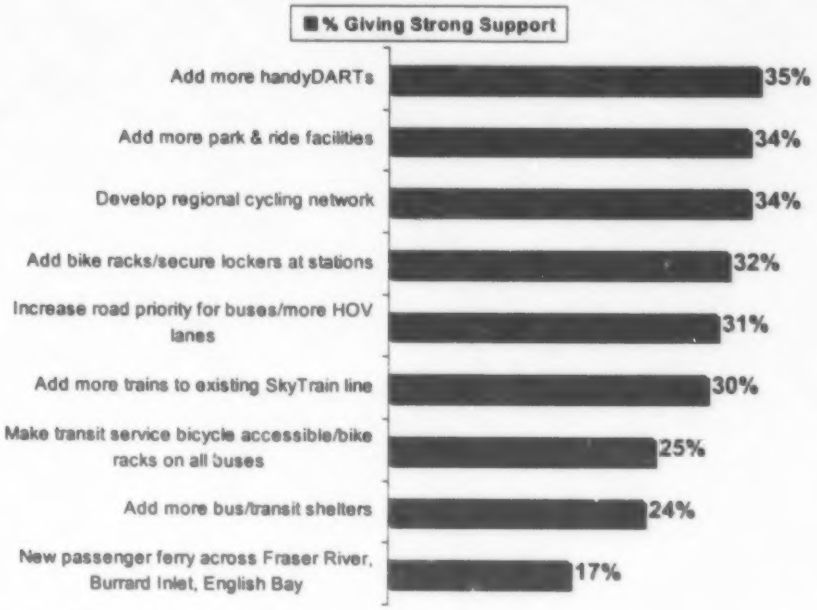


The following are the top three transportation network improvements from among those tested: "add turnstiles and ticket checkers at transit stations to make sure everyone pays a fare" (55% strong support), "work toward making the entire transit system fully accessible by the disabled" (53% strong support) and "improve major roads and bridges to move goods and people more efficiently and support the economy" (46% strong support).

Ratings of Network Improvements



When the same network improvements are evaluated using discrete choice analysis[1], the top choices are "*introduce new types of bus services such as express buses, community buses, and limited stop buses*", "*complete the Lougheed Mall to Coquitlam portion of the new SkyTrain route*", and "*improve the security of transit services by adding more security staff*".



Ratings of Network Improvements (cont'd)

When asked about improvements to the efficiency and customer focus of the transportation network, Greater Vancouver residents gave the strongest support to "*provide a variety of methods for the general public to give their opinions on major transportation decisions, including public meetings, Internet and e-mail, telephone hotlines as well as opinion polls*" (38% strong support), "*make major new developments accessible by transit, cyclists and pedestrians*" (33% strong support) and "*use technology, such as automated telephone information lines and the Internet, to assist people in planning their trips around Greater Vancouver more efficiently*" (32% strong support).

Implications

Results from the quantitative research suggest a number of specific implications for TransLink as it prepares to make a decision about the Strategic Transportation Plan. First, it is clear from the results that the Strategic Transportation Plan is favourably received by Lower Mainland residents, because it satisfies their sense of urgency and immediacy for improvements to the transportation network and infrastructure. Concerns about traffic congestion, inadequate bus service, and difficulty in getting around are frustrating motorists and travellers alike. For them, the status quo is no longer acceptable; something needs to be done. In the STP,

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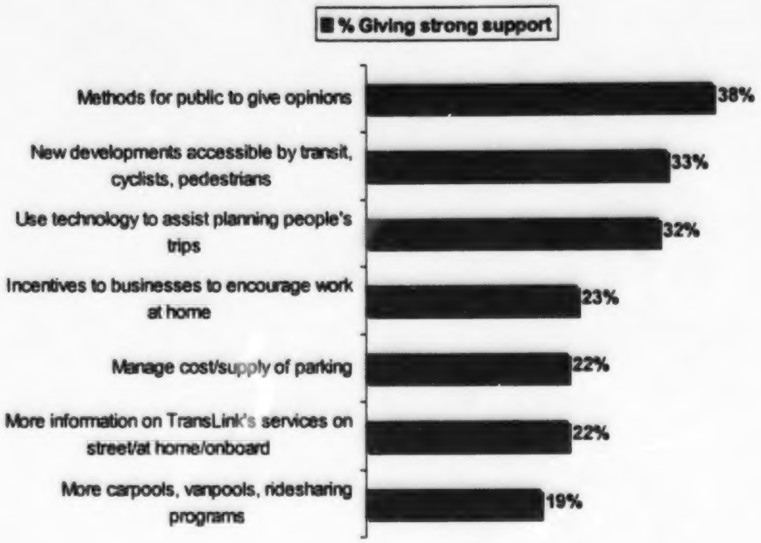
[1] The discrete choice model produces choice shares that are estimates of the probability the resident would choose each item in the given choice set. A Hierarchical Bayes disaggregate discrete choice model was used in this research.



Ratings of Efficiency Improvements

people see a plan of action for the future; this inspires hope that things will change, and for the better.

Second, there are clear indications in the research that support for the Strategic Transportation Plan is broadened once people understand that TransLink's responsibilities extend beyond transit services to include road and bridge improvements. The challenge therefore is to enhance public awareness of TransLink to ensure the public has a full appreciation of what the STP is all about. This will not only help to reinforce the message that a Plan is in place, but it could generate additional positive feedback from the public once they know the Plan has a broader application.

Third, the Strategic Transportation Plan provides a good opportunity for TransLink to establish some degree of credibility and legitimacy as a corporation. Positive feedback and some success in the Plan's implementation will undoubtedly have a favourable impact on TransLink's corporate reputation. Driving this reputation would be the image of a corporation that is prepared to act to address the issues. And, because its initiatives touch the day-to-day lives of so many people in the Lower Mainland, TransLink can build up a reservoir of goodwill in the public, something it can tap into for future undertakings.

Fourth, there are a number of risks that, if not managed properly, could undermine any goodwill TransLink might have already built up with the GVRD public:

- Primary among these risks is raising the public's expectations to "solve" all the issues and concerns with the Plan, expectations that may well be impossible to deliver upon. This is a recipe for quick criticism and the need to exercise constant damage control to explain limited outcomes.
- Further, TransLink may run the risk of trying to do too much with its Plan; not delivering in some key areas in order to cast one's net much wider could invite criticism.

- Lastly, our findings show Lower Mainland residents are quite sensitive to being consulted and "listened to." In this light, should TransLink ignore the public's desire for input, or not act in some way to what the public is saying, this would likely have a negative impact on its corporate reputation.

Fifth, there is a clear indication in the findings that communication of the details of the need for cost recovery measures goes a long way to minimizing opposition to the Plan and to the vehicle levy. Simply put, once people understand that the STP cannot be implemented without adequate financial resources, opposition to the Plan and to the vehicle levy drops considerably. Moreover, TransLink has an opportunity to further reduce opposition to the levy and the Plan through a varied application of the levy, one based on driving habits. Broadly speaking, then, good communications of TransLink's mandate, the STP, and the vehicle levy, together with careful consideration of how to implement funding mechanisms, is likely to raise support levels.

Sixth, the findings show a good deal of sensitivity around accountability and transparency issues. Tax weary citizens are demanding more accountability from government agencies, wanting to know the use to which their taxes are being put. People express an increasing resistance to pay more for something, or pay anything, unless and until they can see value through direct benefits. It means first and foremost that TransLink needs to provide enhanced justification for its financial needs, doing so through a careful, and likely detailed, explanation of the financial situation, including the levy. The public wants to know what it will get for the $75 it will give to TransLink. This means that any details beyond what is found in the Plan's highlights need to be made available either through direct communication to the public or, at a minimum, through requests made to TransLink.